A solution to a catalog problem

Next to personal salesmenship the catalog ranks "tops" in getting business. This is generally conceded. Many "catalog houses" depend upon it for their entire sales volume.

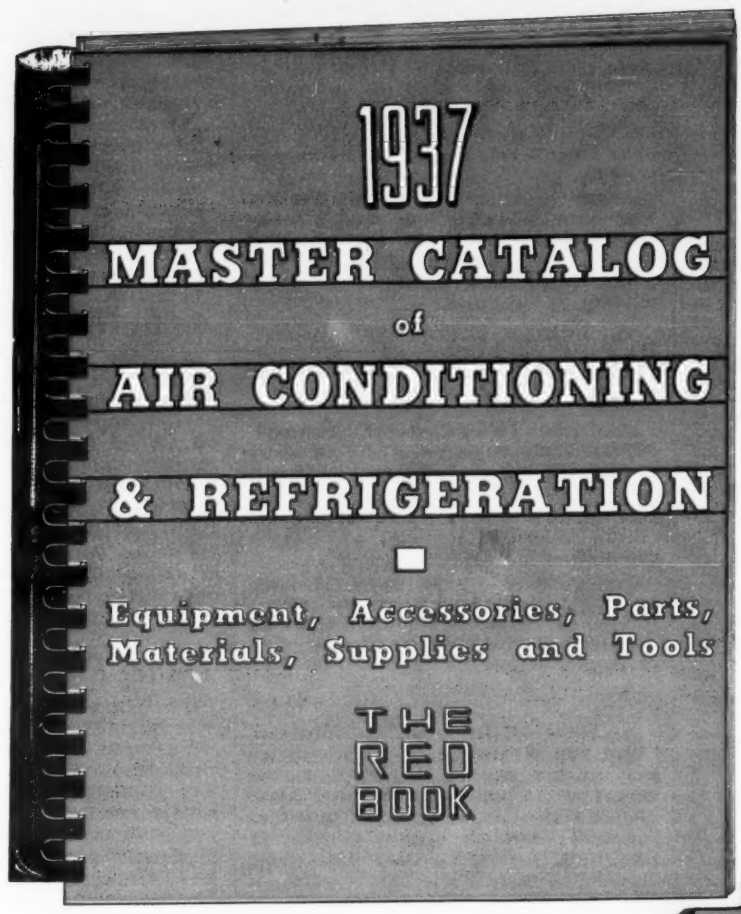
The sales formula frequently consists of:—"write 'em a letter and send 'em a catalog." And the mail brings orders.

Every manufacturer, whether or not he "advertises in publications," issues a catalog. Regardless of all other sales, advertising, and promotion efforts, the catalog is judged as indispensable.

And yet the catalog presents its problems. Its compilation, art work, plates, and printing costs present Problem Number One.

When this problem has been solved and catalogs are ready to "distribute to the trade," then comes Problem Number Two:—*distribution.* Here is the problem of placing the catalog in hands where it will "do the most good."

And there's the BIG PROBLEM!



THE RED BOOK

50,000 COPIES

There is always the question of costs—and effectiveness—and waste—in catalog distribution. Particularly is this true in an industry that is rapidly expanding—where the lists of yesterday are obsolete today—and where potent names so frequently spring up in new places.

Air Conditioning and Refrigeration is a rapidly moving industry and presents a constantly changing picture at this time. In 1936 all previous sales records were shattered, and the coming year—1937—holds forth great promise.

To meet the needs of the moment, the Master Catalog (Red Book) will be published in the interests of the entire industry—to place buyers in touch with sources of supply—to place manufacturers in contact with new distributing and sales outlets.

It will reach not only those long-established in the industry but also those who are "newcomers" and others who are now planning to enter a business offering such a lucrative field.

A survey of the industry as of today is now being made. Reservations for copies of the 1937 Master Catalog are now being received. It will reach—and cover—the active market as it exists at the time of publication.

It will eliminate the question of waste as regards catalogs. It will reach *active* buyers, those who will produce sales in 1937!

As an economical and practical suggestion:—plan to use as much space as may be needed to present your condensed catalog in the Red Book to blanket the entire market—and offer additional information if necessary.

Through the Master Catalog you may cover the market at minimum cost. Closing date will be February 1, publication date March 1, 1937.

Write for rates and complete information.

Business News Publishing Co.
Publishers of Air Conditioning and Refrigeration News
5229 Cass Ave., Detroit, Mich.
Advertising Representative: John B. Gallagher Co.—New York and Chicago

THE NEWSPAPER OF THE INDUSTRY

AIR CONDITIONING AND

REFRIGERATION NEWS

WRITTEN TO BE READ ON ARRIVAL

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FEB HC/mon

Blood Elected Executive V. P. of Borg-Warner

Directs Many Divisions, Including Norge Corp., In New Position

CHICAGO—Howard E. Blood, president of Norge Division, Borg-Warner Corp., has been appointed executive vice president in charge of operations of the various divisions of the parent company, according to announcement made by Borg-Warner's president, C. S. Davis, following a board of directors' meeting held here last week.

Mr. Blood will continue as president of Norge Division, a position which he has held since the acquisition of Norge by Borg-Warner Corp. in 1929, and of Detroit Vapor Stove and Detroit Gear & Machine divisions. His activities in this connection will continue from the offices of Norge Division in Detroit.

The new appointment places Mr. Blood in charge of operations of the following Borg-Warner divisions: Long Mfg. Co., Detroit; Morse Chain Co., Detroit; Marvel Carburator Co., Flint, Mich.; Mechanics Universal Joint Divi-

(*Concluded on Page 2, Column 3*)

Mills Acquires Old Majestic Plant

CHICAGO—Mills Novelty Co., manufacturer of commercial-size condensing units and counter-type ice cream freezers, has taken over the former Grigsby-Grunow plant on Dickens Ave. here for expansion of its refrigeration manufacturing facilities.

The plant in which Grigsby-Grunow once produced its "Majestic" refrigerator has a floor area of 160,000 sq. ft. and is said to be one of the most modern plants of its kind in Chicago.

Mills Novelty Co. is now operating three factories and is carrying out some refrigeration production in each of them.

Frigidaire to Display Line in February

DAYTON — Thirty six convention presentations during February in 33 of the major cities of the nation will afford the more than 20,000 members of the selling organization of Frigidaire division, General Motors Sales Corp., their first view of the line of 1937 household products, and the selling and advertising plans prepared in the Dayton headquarters to assist the sales force, Frank R. Pierce, household division manager, announced this week.

Thirty four men went into rehearsal the morning after Christmas to be molded by Ellsworth Gilbert, convention director and east central zone manager, into three flying squadrons that will travel by special Pullmans and baggage cars throughout the month of February to all major distribution centers.

Into the south and southwest with

(*Concluded on Page 4, Column 4*)

Westinghouse '37 Prices Start At $109.50

MANSFIELD—Prices on the 1937 line of Westinghouse "Kitchen Proved" electric refrigerators range from $109.50, for the FDS-30, 3.2-cu. ft. model in the "Hostess" line, to $289.50, for the largest unit in the "Patrician" series, the FP-92 of 9.2-cu. ft. size.

The four models in the "Aristocrat" line are priced as follows: FD-50, $179.50; FD-60, $214.50; FD-70, $239.50; and FD-92, $269.50.

In the "Patrician" line, prices are: FSP-50, $189.50; FPS-60, $219.50; FPS-70, $244.50; FPS-92, $289.50.

Models in the "Hostess" series are priced as follows: FDS-30, $109.50; FDS-40, $134.50; FDS-50, $169.50; FDS-60, $199.50; FDS-70, $224.50.

The three special models are priced: FS-50, $149.50; FS-60, $169.50; FS-70, $199.50.

All prices listed are zone 1, f.o.b. Mansfield.

Peerless Will Open West Coast Plant

CHICAGO—The Peerless Ice Machine Co., manufacturer of refrigeration and air-conditioning equipment, will open a new branch factory serving the Pacific Coast area early in January, it was announced last week by R. W. Kritzer, president of the company.

The new factory is located in Los Angeles at 3000 S. Main St., in a one-story structure covering 19,500 sq. ft. of floor space. The complete line of Peerless coils, valves, and other refrigeration and air-conditioning equipment will be manufactured at this West Coast plant.

According to Mr. Kritzer, the new factory is being opened in order that

(*Concluded on Page 2, Column 3*)

Sparton Line to Be Shown Jan. 22

JACKSON, Mich.—Initial presentation of the 1937 line of Sparton refrigerators will be made at the Hotel Hayes here Jan. 22-23 when Sparks-Withington Co. will be hosts to Sparton distributors from all over the United States and Canada.

Preceding the new line showing, the Sparton convention will open with a sales conference for distributors which will be held at the factory. Dec. 18 is set as opening day.

At the completion, regional sales meetings and new line showings will be held throughout the United States. Arthur R. Haugh, general sales manager, E. T. H. Hutchinson, Harley Wall, M. F. Bickford, and other factory executives will attend the regional meetings.

R. S. E. S. Convention Goes to Chicago

CHICAGO—The 1937 convention of Refrigeration Service Engineers Society will be held in Chicago on Nov. 3, 4, and 5.

1937 Coldspots Are 'Hingeless'; Prices Boosted

Six-Foot Model to Sell For $155 in Dulux & $175 in Porcelain

By Phil B. Redeker

CHICAGO — New cabinet styling with "invisible door hinge" construction, higher prices, added convenience features, and elimination of "stripped" price leader models (for the time being, at least). That's the news on the Sears, Roebuck Co. 1937 Coldspot electric refrigerator, now being introduced to the company's retail stores at a series of 21 meetings.

The 6-cu. ft. Sears 1937 refrigerator will retail for $155 with a Dulux exterior finish, and for $175 with an all-porcelain finish. The 8-cu. ft. model in Dulux sells for $175, and will be available in an all porcelain number for $195. These prices are $5.50 higher than retail prices on corresponding models last year.

Probably the most striking feature of the 1937 Coldspot is the elimination of the exterior door hinge. The invisible hinge on the Coldspot incorporates a double-acting spring, permitting the door to open at a 90° angle, but preventing the door from swinging too far while open.

Elimination of the exterior hinges has made possible other innovations in cabinet design and construction.

(*Concluded on Page 2, Column 3*)

Next Issue to Feature Air Conditioning

Air conditioning will hold the spotlight in next week's issue of the News.

The editorial staff has made special efforts to obtain for publication in the Jan. 6 issue information that will be of special value to distributing and contracting firms who are thinking about getting into the business, or who are already in the field with plans for increased activities during the coming year.

Recent engineering developments, records of installations (by classes of the market) in the major cities throughout the country, predictions on industry trends by prominent executives, and reports describing the operations of successful air-conditioning dealers, are some of the editorial features to be presented.

11 Months' Sales Up 36% in Cleveland

CLEVELAND—Sales of household electric refrigerators in the Cleveland area for the 11-month period ending Nov. 30 totaled 31,706 units, an increase of 36.4% over the 23,242 sold during the corresponding period of 1935.

November sales of 1,681 units were 422 greater than the 1935 figure of 1,259.

The comparative sales for the three-month period were as follows:

	1936	1935
August	2140	2010
September	1974	1225
October	1327	982

Goodrow Made President Of Sherer-Gillett

MARSHALL, Mich.—Election of R. W. Goodrow as president of the Sherer-Gillett Co., manufacturer of display and storage equipment, was announced by R. P. Sherer, chairman of the executive committee, following a recent meeting of the company's board of directors.

In addition to Mr. Goodrow, the following officers were elected: R. F. Grant, vice president and treasurer; K. D. Zenkere, vice president in charge of sales; J. H. Coolidge, vice president in charge of product development, and assistant sales manager; G. E. Ruddock, secretary; S. T. Robinson, assistant treasurer; R. E. Church, assistant secretary.

Stockholders' Vote Okays Merger of Nash-Kelvinator

DETROIT—Stockholders of Kelvinator Corp., at a meeting on Dec. 23, approved a merger with Nash Motors Co. by a vote of 878,772 shares to 1,200. The company has 1,196,800 shares of stock outstanding.

At a meeting held the same day in Baltimore, stockholders of Nash voted unanimous approval of the merger with the Kelvinator organization.

The merged company will be known as the Nash-Kelvinator Corp., with 4,375,600 shares of issued stock. The merger will be effected on a basis of one and three-eighths shares of stock in the new company for each present share of Kelvinator stock, and one share of new company stock for each share of Nash Motors stock.

Charles W. Nash will serve as chairman of the board of directors of the new corporation, and George W. Mason will be president. Total assets of the organization will be in excess of $50,000,000.

"The Kelvinator division of Nash-Kelvinator Corp. will maintain its production of refrigerators and diversi-

(*Concluded on Page 2, Column 1*)

November Sales Set New Industry Mark

DETROIT—Setting another all-time high for the month, world sales of household electric refrigerators by manufacturers to distributors and dealers rocketed to 83,940 during November, to send the 11-month total for 1936 to 2,087,640 units, according to estimates by AIR CONDITIONING AND REFRIGERATION NEWS.

The household sales total for November of this year is 26,813, or more than 40% higher than the number of sales reported during November

(*Concluded on Page 4, Column 5*)

G. S. Jones to Manage Electrolux Sales

EVANSVILLE, Ind. — Appointment of George S. Jones, Jr., Dallas, as vice president and general sales manager of the Servel Electrolux Sales Division of Servel, Inc. was announced recently by Louis Ruthenburg, president of the company.

Mr. Jones has been with the Servel organization since 1933, when he was appointed district sales manager in Dallas territory. He became regional sales manager of the southwestern region in 1935, a position which he has held up to the present time.

In his new position, Mr. Jones will have his headquarters at the Servel plant in Evansville.

Grunow Distributors to See Line Next Week

CHICAGO — Grunow distributors from all parts of the country will preview the 1937 line of household electric refrigerators and hear sales and advertising plans outlined during a two-day convention in the Stevens hotel here Jan. 5 and 6. William C. Grunow, president of General Household Utilities Co., and Walter L. Eckhardt, director of sales, will be in charge of the business, general, and technical sessions.

Lower Prices & Cabinet Styling Mark G-E Line

Emphasis to Be Placed on 'Thrift' Story in Selling; 18 Models Offered

CLEVELAND — Lower price, new styling, and several new economy and convenience features characterize the 1937 "Triple Thrift" line of General Electric refrigerators, covering 18 models in both Flatop and Monitor Top styles and both porcelain and Glyptal enamel finishes.

The line, largest and most complete that the company has ever offered, has been christened the "Triple Thrift" because of the claims made for it of lower first cost, lower operating cost, and lower upkeep cost.

All models now carry the General Electric five-year performance warranty on the sealed-in-steel refrigerating unit.

The line is competitively priced throughout, prices ranging from $109.50, for the B3-37 model in the Flatop series, to $410, for the large K12 unit. (Cleveland suggested list prices.)

Flatop models predominate in the new line, sizes ranging from 4 to 15 cu. ft. Flatop models with Glyptal enamel finish are offered in 4, 5, 6, 7, and 8-cu. ft. cabinets; with porcelain enamel panels in the 12 and 15-cu. ft. sizes.

Monitor Top models in 6 and 8-cu. ft. sizes are finished in Glyptal enamel; these are the only two models in the Monitor Top series which the company is producing this year. A Liftop model, with Glyptal sides and porcelain top, is also offered.

Three special, or "JB" models, are in the line this year, in 5, 6, and 7-cu. ft. cabinet sizes. These models are similar to equivalent sizes in the deluxe Flatop series, with the exception that certain convenience features, such as sliding shelves and some accessories, are omitted.

Prices in the Monitor Top series are: M8-37, $254.50; M6-37, $199.50.

In the standard Flatop line, prices are: B3-37, $109.50; B4-37, $131.50; B5-37, $169.50; B6-37, $194.50; B7-37, $219.50; B8-37, $244.50; K-12, $410.

(*Concluded on Page 3, Column 1*)

Alco Leases Space in Merchandise Mart

CHICAGO—Alco Valve Co., Inc., manufacturer of automatic refrigeration controls and valves, will move its local offices to the Merchandise Mart, the company signing a six-year lease for 850 feet of space.

Extensive remodeling is being done, but it is expected that Alco will occupy its new offices in time for the Six International Markets.

Advance Leonard Orders 49% of 1936 Sales

DETROIT—Orders taken at the Leonard refrigerator convention here recently equalled 49% of the total sales of last year, according to R. I. Petrie, sales manager.

Leonard scored a gain of 44% over the preceding 12 months of its fiscal year ending Sept. 30, Mr. Petrie stated. The general increase for the industry is estimated at approximately 31%.

Westinghouse Air Conditioning Dealers Preview 1937 Plans at Convention They 'Planned'

MANSFIELD—More than 140 distributors' executives and salesmen discussed mutual problems and made advance plans for 1937 at the annual Westinghouse air-conditioning meeting and training school here a fortnight ago. The meeting was held under the supervision of S. F. Myers, manager of air-conditioning sales for Westinghouse.

Organization of the meeting was unique in that it was built entirely in accordance with distributors' desires. A few weeks before the event, distributors were sent a questionnaire asking them to list the topics they would like to have discussed at the meeting. The program was organized to conform with these preferences.

First day was given over to a presentation of the complete Westinghouse line for 1937, followed by discussions of the product, from engineering through development to application, installation, and service.

On the second day, sales, selling methods, promotion, and advertising plans were taken up. Featuring this section of the program was a series of talks by prominent distributors on various phases of air-conditioning sales and installation work.

H. W. Reding, manager of the air-conditioning department of the Danforth Co., Pittsburgh, spoke on "Organized for Business." Benjamin Natkin, president of Natkin & Co., Kansas City, told "How We Closed the Toughest Job This Year."

"What It Takes to Sell the Large Buyer" was discussed by A. C. Buensod, president of Buensod-Stacey Air Conditioning, Inc., New York City; and Arnold H. Goelz, president of Kroeschell Engineering Co., Chicago, outlined "The Difference Between Profit and Loss in the Air Conditioning Distributor's Business."

In presenting the 1937 line of Westinghouse equipment, a novel stage set-up was employed. All the equip-

(*Concluded on Page 2, Column 4*)

Birdseye Freezes 2-Year Cream Supply For Ambassador to Russia

NEW YORK CITY—First recorded sale of quick-frozen cream has been made to Mrs. Marjorie Post Hutton Davies, wife of Joseph E. Davies, recently appointed U. S. Ambassador to Russia, according to Gardner Poole, vice president of the Birdseye Co.

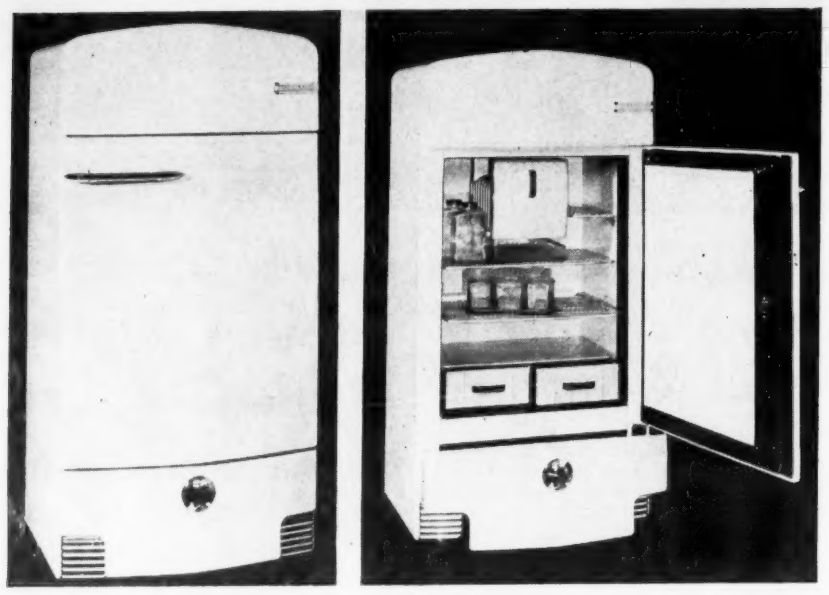
The sale was a big one—2,000 pints in waterproofed cardboard containers. Mrs. Davies expects it to last her two years in Moscow. Cooperating on filling the order were the Borden-Walker-Gordon Co. of Juliustown, N. J., which supplied the cream, and the Birdseye Packing Co., which quick-froze it.

Previously the Birdseye quick-freezing process has been applied successfully to meats, game, fish, fruit, and vegetables, but it was not until Mrs. Davies placed her huge order that either Birdseye or any of the large dairy concerns thought of trying it on cream.

Mr. Davies, it is understood, has also placed orders for large supplies of both quick-frozen and canned vegetables and fruits. Adequate refrigeration facilities will be installed in the official residence of the embassy.

In answer to protests from Soviet representatives in the United States that "there are cows in Russia," it was pointed out that Russian diplomats in Washington import large quantities of caviar and vodka from home, and that it is customary for diplomats to take along to their posts any supplies they may desire.

Presenting the 1937 Coldspot



Nash-Kelvinator Plan For Merger Approved

(Concluded from Page 1, Column 4)

fied household appliances and other temperature engineering equipment, while the Nash division continues the manufacture of motor cars," Mr. Mason announced.

"No change is contemplated at the present time in the personnel or policy of either division."

Answering a dissenting stockholder's question at the meeting, Mr. Mason stated:

"We have made a very careful survey of the proposed merger, including a thorough analysis of the market for both products, and as a result are convinced that the deal is of good warrant.

"The Nash name is well regarded. It is true that its volume has been small, but therein lies an opportunity that convinces us of the possibilities of combining the two companies."

Crosley Forms Sales Training Dept.

CINCINNATI—A new department which will assist distributors to organize and train their sales organizations has been formed by Crosley Radio Corp., Thomas W. Berger, general sales manager, announced last week.

This department will be headed by William C. Stoner, who has had several years experience in the electric appliance industry. For a number of years he was with a large manufacturer of washing machines, and later was associated with two different distributors of electric refrigerators.

Mr. Stoner, who has been Crosley district manager in Missouri, Kansas and Colorado, will be succeeded by H. A. Armbright. Mr. Armbright has had sales experience with electric washers, refrigerators and vacuum sweepers on both the east and west coasts, as well as a background of experience as a retail salesman.

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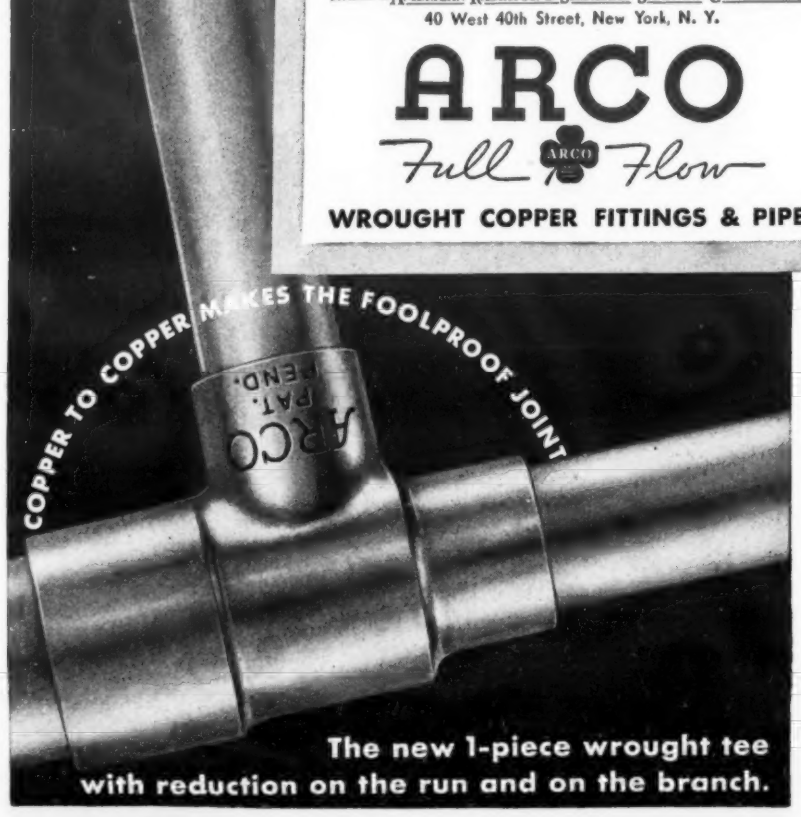


The new 1-piece wrought tee with reduction on the run and on the branch.

Sears Raises Prices, Adds New Features On 1937 Coldspot

(Concluded from Page 1, Column 3)

Side panels extend full length from the floor to the top, and fit flush with the top, door and back, giving the impression of one-piece construction. The door handle is now in the form of a massive chromium bar placed horizontally across the door on the left hand side, in about the position where the nameplate was placed on the 1936 Sears refrigerator. The nameplate, in simple rectangular design, "bleeds off" the right-hand side of the panel above the door which covers the unit compartment.

There are no legs on the Sears refrigerator this year, the cabinet sitting squarely on the floor. For decorative purposes there are steel inserts on the bottom cabinet front where the legs would ordinarily be found.

In the way of convenience features perhaps the most noteworthy advance Sears has made in its 1937 models is in its ice cube production. A new Speedex tray affords faster freezing; there are five trays in the 6 ft. model this year making 8 lbs. of ice in 113 cubes, compared to 105 cubes in the corresponding model last year. Fingertip tray release is provided, and a plastic material has been placed over the cube trays to eliminate the possibilty of the user cutting his hand in making use of the tray.

Aluminum shelves are again used, but are in a different design. The aluminum cover for the evaporator is fancier than last year, and larger, covering the cold control dial. The Foodex (index storage space) drawers are also aluminum, with a tray top.

A sliding shelf and an adjustable upper shelf are standard. A Servex glassware set of three pieces on a tray and two water bottles suitable for use on a table round out the cabinet accessories.

The dry storage Handibin below the refrigerated compartment is retained, and is opened by a ball-shaped chrome handle.

Cabinet are insulated throughout with 3 inches of Dry-Zero insulation.

Greater efficiency is claimed for the Rotorite rotary compressor, which is again used in the Sears refrigerator.

According to Sears officials, by far the greatest number of sales have been in the model in the 6-cu. ft. series, which in 1937 has 6.2 cu. ft. net food storage capacity and 12.2 sq. ft. of shelf area.

No 4-cu. ft. or "stripped" leader models were to be shown at the series of 21 meetings in which the 1937 Coldspot is being introduced, company officials declared, and they further intimated that it was unlikely that such models would be introduced unless the market was of a nature that would force Sears to make such a move.

Cortines to Manage New Peerless Plant

(Concluded from Page 1, Column 2)

the company may render faster and more efficient service to its Pacific Coast customers. One to two-day service will be maintained, whereas former shipments were not received from the Chicago factory in much less than a week or 10 days. The Los Angeles plant will also relieve the Chicago factory of some of its manufacturing load.

Jack Cortines, formerly with Kelvinator as district and regional manager, and later with Brunswick-Balke-Collendar Co., will be manager of the new plant. Mr. Cortines has been associated with Peerless since 1934.

H. H. McAdams, formerly with Brunswick-Balke-Collendar Co., will be chief engineer, and J. R. Sumrall, assistant superintendent of the New York factor, will be production superintendent.

It is expected that the new plant, which is the third Peerless factory in the United States, will employ about 120 persons at the start.

Blood Named Borg-Warner Vice President

(Concluded from Page 1, Column 1)

sion, Rockford, Ill.; Warner Gear Division, Muncie, Ind.; Calumet Steel Co., Chicago Heights, Ill.; Borg & Beck Division, Chicago; and Ingersoll Steel & Disc Co., Chicago and Newcastle, Ind.

Mr. Blood served as major in the air corps during the war, spending considerable time as executive officer of the engineering division at McCook Field, Dayton. After the war he become general manager of General Motors Corp.'s Canadian division at Walkerville, Ont.

Later he become general manager of Detroit Gear & Machine Co. In 1927 he organized Norge Corp., of which Detroit Gear & Machine became a subsidiary. Both concerns were made Borg-Warner divisions in 1929.

The New Gibson

Westinghouse Shows Conditioning Line

(Concluded from Page 1, Column 2)

ment was displayed on the stage of the new Westinghouse auditorium, and is said to be the most complete line of air-conditioning equipment ever exhibited by one manufacturer at a single showing. Actual weight of the equipment shown exceeded 10 tons, and was equal in capacity to 125 tons of refrigeration, more than enough to condition the five floors of the new Westinghouse plant building, in which the meeting was held.

So that distributors could see the methods of manufacture and engineering used in the development of the new CLS (sealless) line of equipment, a slide film, titled "What's the Answer?", was presented. This film used two projectors and two screens—one screen showing a question, and the other answering the question by photographic illustrations and off-stage voice explanations.

The film covered a trip through the East Springfield production aisle, and showed features of manufacturing, precision, and accurate testing used in constructing the line.

A sharp upturn in the sales curve of air-conditioning equipment for 1937 was predicted by Mr. Myers in his address to distributors and salesmen attending the meeting.

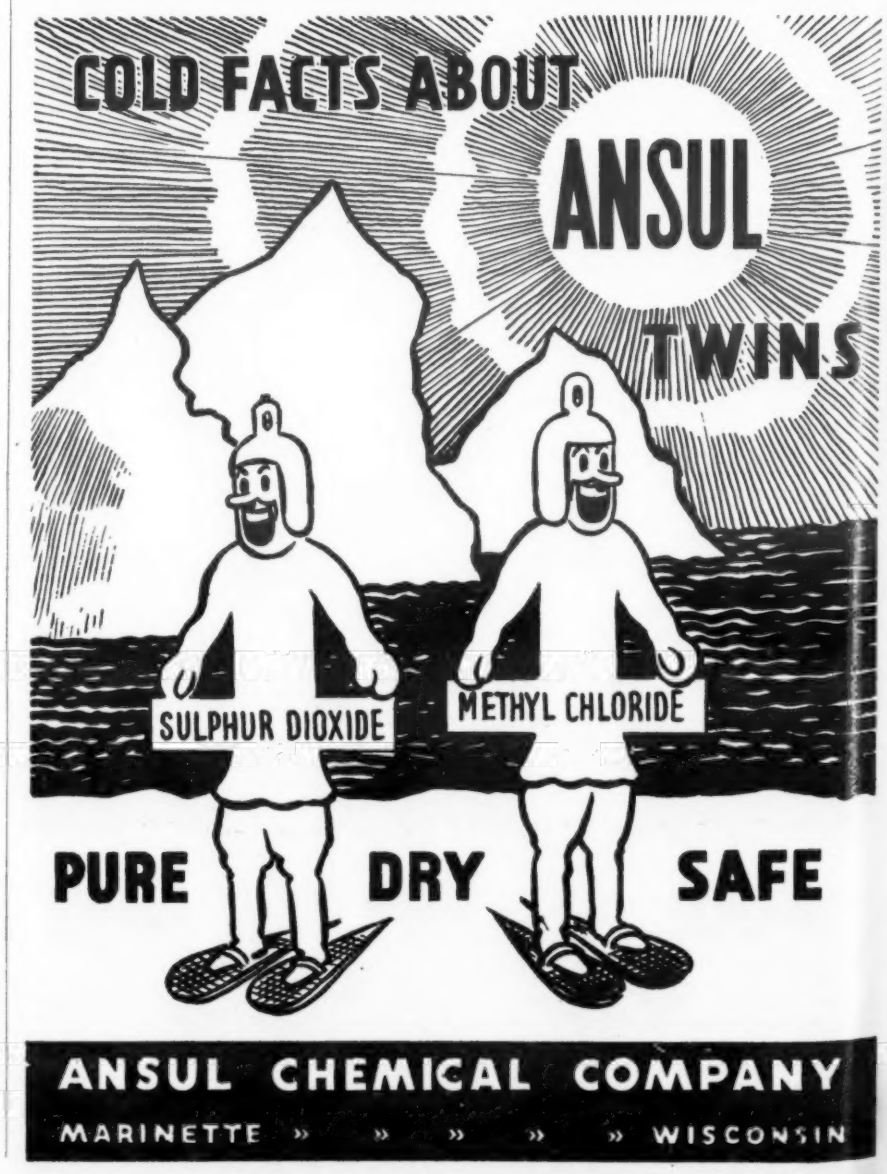
"Experience in 1936 proved that commercial air conditioning is no longer a luxury, but a self-liquidating business which, in 1937, will be recognized as a merchandising necessity," Mr. Myers said.

Westinghouse intends to make a strong bid for the volume market next year with its recently introduced CLS line, he added. This market includes retail stores, restaurants, hotels, and similar business places.

With the recent developments in self-contained room coolers or "package" air conditioners, still greater markets will be opened up, Mr. Myers stated.

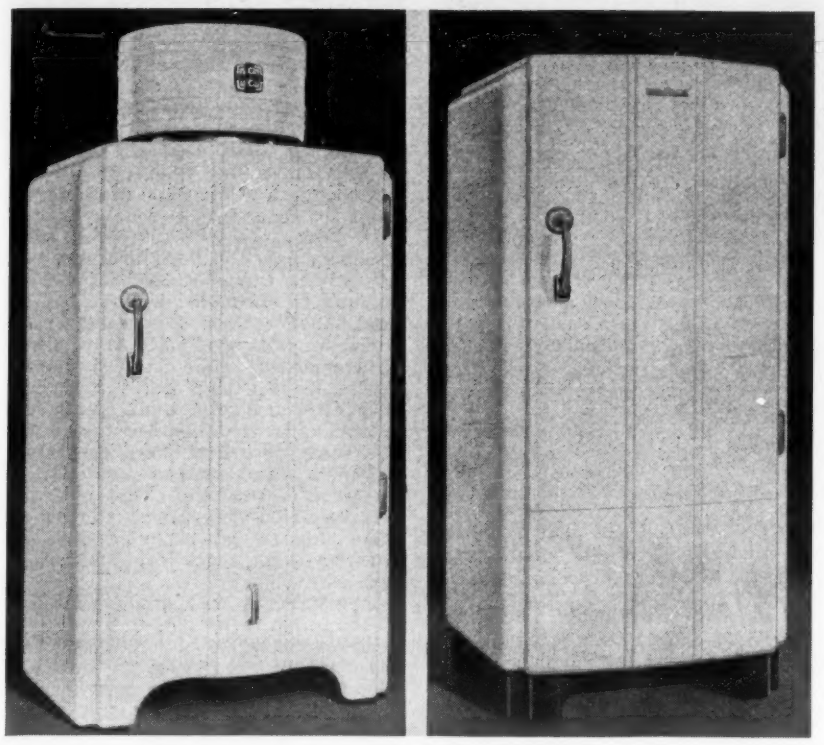
"These new self-contained room coolers," he added, "pave the way for power companies, department stores, electrical dealers, and all types of outlets doing a specialty selling job . . . and open the market for installations in single rooms of residences, apartments, hotels, and hospitals."

Third and fourth days of the meeting were given over to a school for application and engineering, which was attended by 75% of those present for the first two days' sessions.



ANSUL CHEMICAL COMPANY
MARINETTE » » » » » WISCONSIN

New Monitor Top & Flatop Models



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Lower Prices, Modern Styling, and New Conveniences Characterize 1937 G-E

(*Concluded from Page 1, Column 5*)

Price of the K-15 unit will be announced later.

"JB" models are priced as follows: JB5-37, $147; JB6-37, $168; and JB7-37, $197.

In the "PB" series, porcelain with black trim, the PB6 is priced at $214.50, and the PB8 at $264.

Features of the 1937 G-E line include the "Thrift-ometer," a thermometer placed in the refrigerator's top shelf to indicate safety zone temperatures inside the cabinet.

All models, except the 3 and 4-cu. ft. regular and 6 and 7-cu. ft. special sizes, have sliding shelves. In the 6, 7, and 8-cu. ft. standard models, these sliding shelves are adjustable in height. Front edge of the shelves in these last models is rounded in front to provide more shelf area and greater accessibility.

A bottle rack is provided in the top sliding shelf of the 6, 7, and 8-cu. ft. standard models, to keep bottles from tipping when the shelf is pulled out. This shelf slides, to give convenient access to all bottles.

Larger models in the standard series are equipped with egg rack, fruit basket, and matched covered dishes for storage of leftovers. With the exception of the smallest models, units are also equipped with vegetable pans, water bottles, bottle racks, and other accessories.

Sliding shelves are the full width of the cabinet, to afford additional storage space.

Temperature control and defrosting switch are located inside the cabinet above the freezer compartment, where they are easily accessible. Freezer compartments in all the larger models have doors. Evaporator is of one-piece stainless steel, easily cleaned. Rubber ice trays are standard in several models.

All exposed hardware is chrome plated forged brass. Strong hinges hold the door in alignment; stainless steel bearings permit the door to swing quietly, without dragging or binding. Door latch is a self-sealing single action type, and may be opened by a touch of the wrist, if the hands are full. A textolite tongue on the latch is protection against wear and corrosion.

Cabinet lines are massive and sturdy in appearance, enhanced by a sweeping curve of the front, large radius corners, a crown and paneled door, and increased cabinet width. In the two Monitor Top models, the space under the cabinet has been utilized as a non-refrigerated sliding vegetable drawer.

Freezing speed of this year's units has also been accelerated, it is claimed, and four refrigerating services are offered: fast freezing, frozen storage, a special compartment for vegetables, and normal food storage.

The hermetically sealed condensing unit features the Scotch yoke compressor; oil cooling; forced feed lubrication; internal spring mounting; all welded and silver soldered connections, to guard against leaks; stainless steel "super-freezer"; high side float; and scientifically designed acoustic mufflers, to dampen motor noises.

New Ranges Cover Every Price Field

General Electric has also announced a new line of electric ranges, covering every price field, and including new features in appearance, construction, and convenience.

One of the new low-priced G-E ranges is the "Comet." Features include the "Unitop," or one-piece cooking top and back splasher; the "no-stain vent" which prevents the staining of walls; a "full floating door," with heavy hinges to eliminate sagging; an oven with die-pressed shelf supports and adjustable sliding shelves; large storage space; porcelain front and top; flush construction; and three Hi-Speed Calrod cooking units, as well as a six-quart Thrift Cooker.

Storage Drawers in 'Meteor'

The "Meteor," next range in the line, utilizes many features of the "Comet." In addition, it provides a pair of storage drawers below the main range body in a base, making the "Meteor" a floor type model. The only range in the G-E line for 1937 which will be mounted on legs is the "Comet." All others are of the base, or floor type.

The "Meteor" also is equipped with a pudding pan in the cooker, a measuring cup, hot pan holders, and a porcelain enameled drip tray. Hardware is of the new design with streamline handles on the oven and round knobs on the storage compartment doors, made of smooth black textolite. Available also, as an accessory, is a back shelf with lamp fixture, shade, and a new design of condiment jars, with space for the timer or minute minder.

A new "Speedster" range is included in the 1937 line. The new "Speedster" has many added features, including the Unitop and "Oven tender," or temperature control. The latter is mounted in the center of the back splasher, so that it is easily accessible and readily visible. It also has the no-stain vent and the Tripl-Oven.

The provision of the small oven in the upper section of the Tripl-Oven makes for increased efficiency for the single shelf cooking jobs which constitute 75% of the cooking. At the same time, removal of the duplex unit to the lower position provides a large efficient baking and roasting compartment for those who desire large oven meals.

The "Speedster" has super-oven capacity, new design Duplex Calrod oven units, adjustable sliding shelves, adjustable smokeless broiler, compensated economizer, new oven door supports, and large storage compartment.

'Mercury' Has Calrod Unit

Following the "Speedster" is the "Mercury," which has all of the features of the former, plus a Calrod warming unit located under the floor of the warming compartment and controlled by a gray Plaskon switch located at the left end of the back splasher. The warming compartment is equipped with a sliding shelf with a positive stop which facilitates the convenient use of this compartment. Below the oven and warming compartment is a storage compartment extending the entire width of the range and equipped with two drop type doors.

Standardization Keynote

The deluxe single oven range is the "Chancellor." It will have all the features of the "Mercury," plus a back shelf assembly consisting of a light with a molded gray Plaskon shade and gray porcelain condiment jars; while between the minute minder and warming compartment switch will be an indicating pilot light on the warming compartment. It also has two large storage drawers.

An "electric sink," combining the electric dishwasher and the G-E Disposall, is a new General Electric development for 1937.

The electric sink washes dishes, glasses, silver, pots and pans, and dries them; and disposes of food waste down the drain. The electric sink may be obtained in several models, to fit requirements for various types of homes.

Unit Kitchens Designed In Six Basic Sections

The new G-E unit kitchen has standardized, prefabricated, and interchangeable units which will fit any kitchen plan. The kitchen may be adapted to one-wall, L-shaped, or U-shaped kitchens, and it is flexible so that as many sections as desired may be ordered to fit any space for home or apartment.

There are six basic sections—range section, dishwasher section, sink section, refrigerator section, base cabinet section, and a corner section. Each section has four divisions—top storage cabinets, lighting strips or molding, back splash wall panel, and base units of drawers or appliances. Other cabinet sections also may be added where desired.

The dishwasher section uses the top opening dishwasher, and consumes the entire base unit space. The sink section may be used with the G-E Disposall or with storage drawers. The base cabinet section is used for storage spaces and work surfaces. The range section is used with either three or four-burner range with standard size oven. The corner section is used in the corners of an L-shaped kitchen.

The keynote of the unit kitchen is standardization. Each section—either a base cabinet section or an appliance section—is 24 inches wide. The maximum height of a complete section is 88½ inches. Work surfaces are all one height and the top storage cabinets are all one size. The wall panels, which are 18 inches high, are made to finish the wall area between the back splash and the storage cabinets. Lumiline lamp lighting strips or molding are used between the wall panel sections and the top storage cabinets.

Key Specifications of 1937 G-E Line

Model	Capacity (Cu. Ft.)	Shelf Area (Sq. Ft.)	No. of Trays	Ice Cubes	Lbs. of Ice	—Exterior Dimensions— Height	Width	Depth
B4-37	4.2	8.4	2	40	4	49½	23½	24
B5-37	5.2	10.9	3	60	6	53¼	27¼	24¾
B6-37	6.1	12.2	4	84	8	56½	29½	25¼
B7-37	7.1	15.1	4	84	11	60¼	29½	25¾
B8-37	8.1	16.9	4	84	11	60¼	32½	26
JB5-37	5.2	10.9	2	40	6	53½	27¼	24¾
JB6-37	6.1	12.2	4	80	8	56½	29½	24¾
JB7-37	7.1	15.1	4	80	10	60¼	29½	25¾
M6-37	6.2	12.2	4	84	8	66¼	29½	25
M8-37	8.2	16.9	4	84	11	69¾	32½	23¾
PB6-37	6.1	12.2	4	84	8	56½	29½	25¼
PB8-37	8.1	16.9	4	84	11	60	32½	26
K-12	12.5	22.7	7	128	14½	62½	39	28
K-15	15.4	30.0	7	128	16½	62½	46	28
LK-2	....	....	2	20	2	36	21	24

MODERNIZE YOUR REFRIGERATOR WITH SHELF-X SHELVING

•Shelf-X* is as modern as the newest refrigerator models. It does away with the tipping of dishes and the dropping of food. The attractive diamond design adds to the refrigerator's appearance. And in addition to its many other advantages Shelf-X is sanitary and easy to keep clean.

Use Shelf-X for air-conditioning units

Because the large open area of Shelf-X assures good air circulation, Shelf-X is as good for air-conditioning screening as it is for refrigerator shelving.

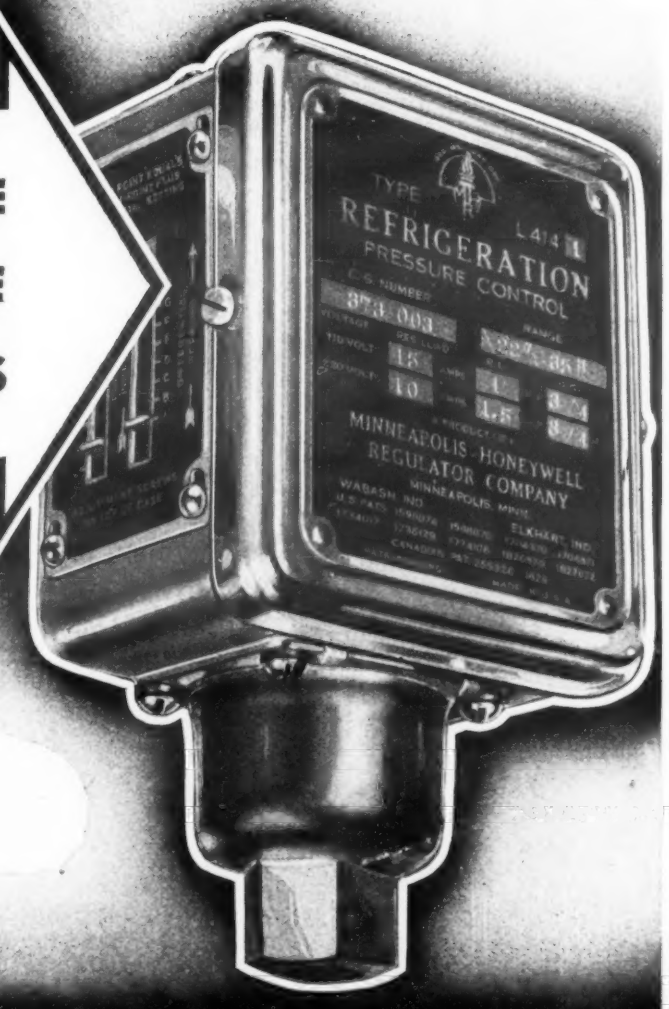
MAIL COUPON FOR FREE SAMPLE

UNITED STATES GYPSUM COMPANY
300 West Adams Street, Chicago, Illinois
Please send me a free sample of Shelf-X with complete details. ARN-12-30
Name.....
Title.....
Company.....
City.....State.....
*Registered Trade-Mark

MANUFACTURED BY
UNITED STATES GYPSUM COMPANY

REFRIGERATION CONTROLS THAT STAND UP

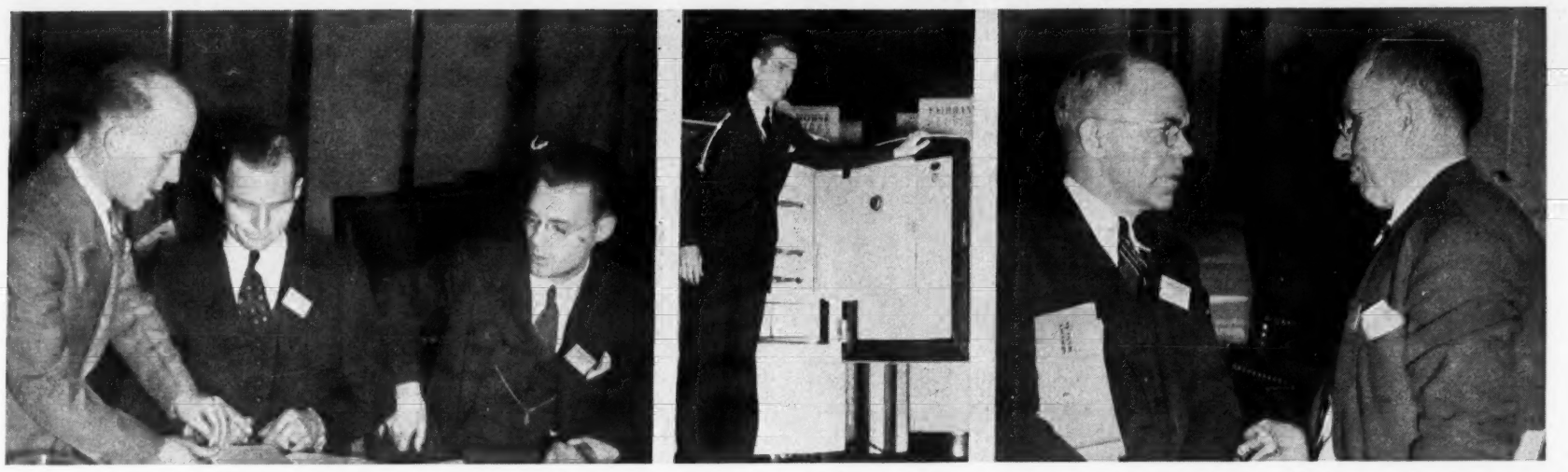
WIDE RANGE
NARROW RANGE
VISIBLE SCALES



MINNEAPOLIS-HONEYWELL Refrigeration Controls have gained an enviable reputation not only because of their inherent accuracy and general performance, but because they stand up under all kinds of conditions. They are available in wide and narrow ranges, both temperature and pressure, and are suitable for comfort cooling or commercial refrigeration applications. Visible scales, an exclusive Minneapolis-Honeywell feature, and locking and leveling devices at no extra cost, mean simple and permanent adjustment and greatly reduce installation and service costs. The Minneapolis-Honeywell Engineer in or near your city is available for consultation, at no obligation or expense to you. Minneapolis-Honeywell Regulator Co., 2807 Fourth Ave. So., Minneapolis, Minn. Branches everywhere.

MINNEAPOLIS-HONEYWELL
Control Systems
BROWN INSTRUMENTS FOR INDICATING, RECORDING AND CONTROLLING

Fairbanks-Morse Officials and Distributors Map 1937 Program



These action photographs are typical of the activities of executives of Fairbanks, Morse & Co.'s home appliance division during the recent distributors' convention in Indianapolis. Left: John S. Garceau, new advertising manager, discusses promotional plans with I. J. Enger of Enger Supply Co., Minneapolis, and E. E. Bareuther of the factory staff. Center: General Manager W. Paul Jones presents the 1937 F-M Conservador line. Right: L. M. Decker, home laundry sales manager, explains the new landry school plan to E. M. Craig of Logan-Gregg Co.

Porcelain Enamel Institute Announces Plans for Round Table Conference

URBANA, Ill.—Preliminary plans for the first annual Enamelers Round Table Conference, to be sponsored by the Porcelain Enamel Institute next May at the University of Illinois, have been announced by F. E. Hodek, Jr. of the General Porcelain Enameling & Mfg. Co., institute vice president and head of the conference committee.

Scheduled to extend for three days, the conference will include discussions of enameling problems of interest to the entire industry. Enamelers forums and short courses formerly conducted by Ohio State University, University of Illinois, and Ferro Enamel Corp., are to be discontinued in favor of the institute conference, Mr. Hodek has announced.

According to present plans, general sessions which will be all-industry round table discussions, will be augumented by sectional group meetings for discussion of problems pertaining to the enameling of cast iron, sheet metal, and hollow-ware.

"The ABC of Enameling" will be the subject of the first day's session, which is under the chairmanship of Prof. R. M. King of Ohio State University. Dr. A. I. Andrews of the University of Illinois will lead the discussion.

At the general sessions to be held the morning of the second day, subjects for discussion include: review of the industry's progress; milling and mill room control; dipping and dipping control; spraying and spray control; burning and furnace problems; inspection; housekeeping (keeping enamels clean); factors affecting ground coat draining and set up.

Other subjects scheduled for this session are: humidity conditions in dryers and effect on enamels; dry film strength of enamels; design and chipping; producing one cover coat ware; acid-resisting enamels; reboiling; enamel shop production problems; enamel shop costs; clay; reclaimed enamels; milling practice; and control of consistency of milled enamel.

In the afternoon the following topics are to be covered at sectional group meetings: cast iron; sandblasting; foundry practice and cleaning of castings; control problems and methods; and problems in burning.

Sheet Metal: pickling and cleaning; black edge enamels; pickle room practice; control problems and methods; problems in burning.

Hollow-Ware: pickling and cleaning, beading and drying conditions to develop; proper mottle; pickle room practice; application of enamels. A general session for discussion of shop problems will wind up the conference.

Explaining that the present program is subject to change, Chairman Hodek added: "We believe by merging the forums and short courses which have been conducted into one all-industry round table conference we shall have taken a major step in promoting the industry's progress, at least from a technical and production standpoint."

Landers, Frary & Clark Votes Extra Dividend

NEW BRITAIN, Conn.—Directors of Landers, Frary & Clark have voted an extra 25 cent dividend for December in addition to the regular dividend of 37½ cents.

An employes' Christmas bonus amounting to 5% of each individual's earnings during the past six months also was authorized.

October Sales Highest For Newark Utility

NEWARK — Electric refrigerator sales of Public Service Electric & Gas Co. totaled 6,300 for the first 10 months of this year.

Other sales figures for the 10-month period follow: washing machines, 9,748; ironers, 2,200; electric irons, 27,000.

May was the best month during the first half of the year; October highest for the 10-month period.

Welling Opens New Display Room for Norge Products

BIG RAPIDS, Mich.—New showrooms and business offices of Welling Furniture Co., Norge dealer in this territory, were formally opened to the public on Dec. 2. Ben and Leo Welling are proprietors of the company, and Allen J. Singer is store manager.

Improvements made in the company's business quarters, established in Big Rapids several years ago by the late Harris Welling, include the construction of an additional showroom on one side of the store, in which furniture for a complete room may be displayed.

This window is connected with the store proper, which contains two smaller display windows. A modern store front has also been added.

Former quarters of the firm were remodeled from basement to second floor, affording three full floors for the display of home furnishings and kitchen appliances.

Dedication of the company's enlarged quarters was observed by the *Big Rapids Pioneer* with 16-page special supplement to its Dec. 2 issue, in which the history of the Welling store in the community's business life was contained.

Advertisements from other Big Rapids business houses, printed in the section, congratulated the company on the opening of its new home.

Electric Home Servants Co. to Retail G-E In Ridgewood

RIDGEWOOD, N. J.—Electric Home Servants, Inc., has succeeded Suydam & Kinne as local dealer for P. H. Harrison & Co., Newark, distributor for General Electric in New Jersey.

G. H. Hurst, former general manager for Suydam & Kinne, now holds the same position with the new concern. Salesman William Boer and other employes of the former dealer also are now connected with the new G-E organization.

Frigidaire Troupes Go Into Rehearsal For Feb. Conclaves

(*Concluded from Page 1, Column 1*)

stops at Miami, Fla.; Atlanta; New Orleans; Houston, Tex.; Fort Worth, Tex.; Memphis, Tenn.; St. Louis; Indianapolis; Cincinnati; Roanoke, Va., and Richmond, Va., will go the crew headed by Lee A. Clark, household advertising and promotion manager.

Members of this crew will be Frank C. Lyons, assistant director of public relations; W. F. Switzer, manager of marketing and organization department; H. N. Kelly, public utilities division; D. P. Wiesner, installation and service department; H. M. Cline, household promotion department; Charles Klopp, southwestern zone manager; Insco Williams, exhibits and displays department; R. E. Treon, regional headquarters staff; Al Truscott, Jr., installation and service department; J. Spottswood, sales department; and C. F. Liesman, public utilities division.

The following cities will be visited by a orew headed by Mr. Gilbert: Omaha, Neb.; Chicago; Detroit; Cleveland; Rochester, N. Y.; Boston; Pittsburgh; New York City; Washington, D. C.; and Philadelphia.

Mr. Gilbert's convention associates will be C. E. Quigley, assistant commercial sales manager; G. E. Durban, assistant manager, public utilities division; D. T. Hayward, north central zone manager; A. D. Farrell, manager of exhibits and displays; S. V. White, household promotion department; J. A. Mitzelfelt, Philadelphia organization; H. T. Shannon, sales department; J. S. Morgan, public utilities division; Ivan Rowan, installation and service department; R. T. Potter, installation and service department; C. S. Trigg, household promotion department; Al Jones, service department; and Frank H. Miller, sales department.

Oklahoma City, Okla.; Kansas City, Mo.; Wichita, Kans.; Denver; Salt Lake City; Los Angeles; San Francisco; Portland, Ore.; Seattle, Wash.; Spokane, Wash.; St. Paul-Minneapolis, Minn.; and Des Moines, Ia., will see a group headed by H. J. Walker, Jr., manager of the public utilities division.

With Mr. Walker will be: C. J. Allen, eastern zone manager; E. L. Williams, assistant Pacific regional manager; F. W. Beecher, air conditioning division; R. L. Winegarner, north central zone manager; R. D. Rodkey, commercial sales staff; R. H. Huston, southeastern zone manager; H. H. Schnable, public utilities division; Jack Davy, marketing and organization department; M. D. Weisenbarger, commercial sales division; C. R. Hageman, installation and service department; and George Shane, Pacific regional staff.

E. G. Biechler, general manager, W. F. Armstrong, assistant general manager, Carl A. Copp, general sales manager, Roy E. Smithson, commercial division manager, Charles T. Lawson, household sales manager, Mr. Pierce, and other executives will attend a number of the conventions in the 33 cities, it was stated.

2,087,640 Units Sold By Industry in 11 Months

(*Concluded from Page 1, Column 4*)

of 1935, 57,027, itself a high mark for the month up to that time.

World sales for the 11 months are 444,371 units more than those for the same period of last year, when the total was 1,643,269, and are 399,040 greater than the 1,688,600 units sold during the whole of last year.

Sales by 15 member companies of National Electrical Manufacturers Association totaled 78,065 units during November, to send the 11 months' figure for this leading group of manufacturers to 1,941,539, an increase of 444,859 over the 1,496,680 sold during the same period of last year.

The November Nema sales figure passes by 25,030 the 53,035 units sold by member companies during the same month in 1935, when a new monthly high mark for the industry was established.

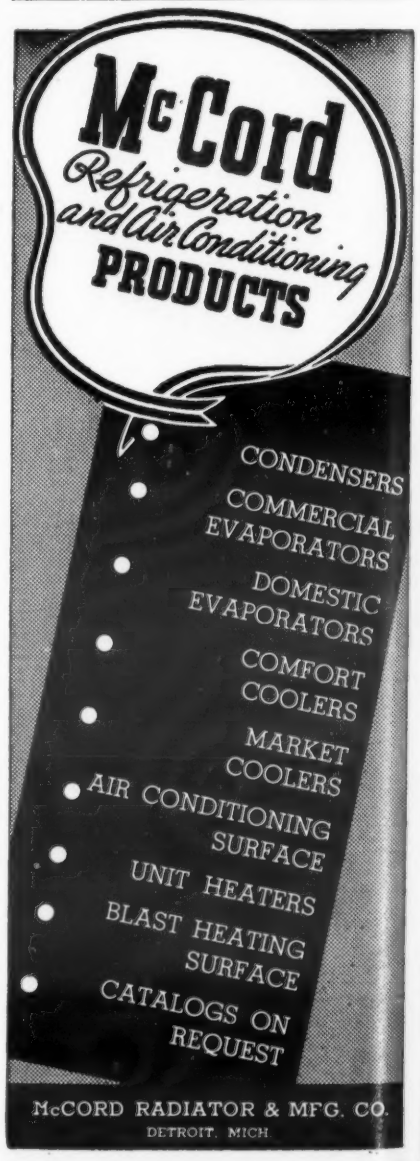
The industry as a whole passed the two million sales mark in October, when world sales of 57,200 units sent the total for the 10 months to 2,003,700. Nema household sales for the same period were 1,863,474 units.

Sales of commercial refrigeration and air-conditioning equipment by 15 Nema member companies during November totaled 9,010 units, to send the figure for the 11 months of this year in that division to 203,204 units. No comparable estimate for 1935 is available.

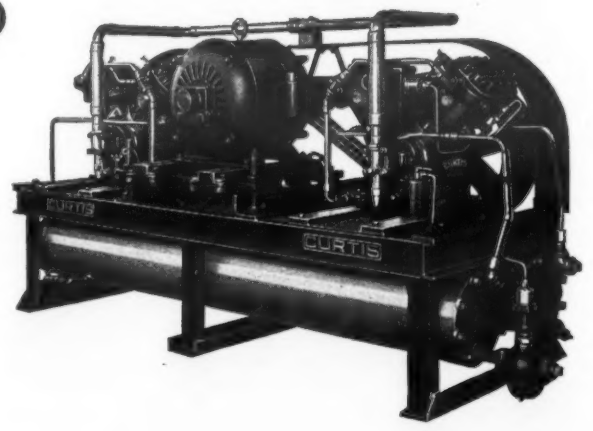
November commercial sales were only 355 under those for October, when sales of 9,365 units were reported by Nema companies.

Particularly encouraging for the period through November have been sales of pressure water coolers, ice cream cabinets, and bottled beverage coolers. Eleven months' sales of water coolers total 15,039 units; of ice cream cabinets, 23,405 units; and of beverage coolers, 32,924 units. Sales of commercial condensing units up to and including 5 hp. during the same period total 118,813 units.

Exports of household refrigerators manufactured by Nema companies to Canada and other foreign countries during the 11 months reported total 161,280 units, compared with a total of 123,593 units during the whole of 1935. Exports of commercial refrigeration equipment during the same period total 34,385 units.



Policies and Profits GO HAND IN HAND



THE product alone is not enough to insure the greatest dealer profits — the dealer must have the active cooperation of the manufacturer at all times.

It has always been a merchandising policy of Curtis that the dealer comes first. Curtis never sells through any other outlet than its own dealers nor direct. The Curtis plan is strictly one of cooperation, not competition.

Curtis builds a complete line of condensing units and refrigeration equipment for all purposes with a background of 82 years successful engineering designing and manufacturing experience.

Curtis products, backed by the Curtis policies of strict dealer cooperation, make big profits today and assure a sound, permanent business for all time to come. It will pay you to investigate. Some highly desirable territory is still available. Write to Curtis today.

CURTIS
CURTIS REFRIGERATING MACHINE CO.
Division of Curtis Manufacturing Co.
1912 Kienlen Avenue - - - - Saint Louis, Missouri

Each coil is clearly labeled for your convenience.

WOLVERINE
COPPER TUBING
Each coil of Wolverine Copper Tubing is wrapped in crepe paper to assure its delivery to you as bright, as shiny, and as clean as the day it was made—available in a complete range of sizes in either random or exact length coils—plain or tin-plated—meets ASTM specifications B68-33. Your jobber has it.

WOLVERINE TUBE CO.
1411 CENTRAL AVENUE DETROIT, MICHIGAN

Commercial Refrigeration

New Equipment Cuts Wholesale & Retail Firm's Power Costs

READING, Pa.—B. & J. Saylor Co., second oldest local business concern and oldest wholesale and retail food establishment in Pennsylvania, has been equipped with Frick refrigeration by Reading Engineering Works, Frick distributor in this territory.

The Saylor Co. is housed in a four-story building, and operates a complete bakery, candy, coffee roasting, and meat products manufacturing departments, as well as a retail store.

The previous refrigeration plant consisted of two 5 by 5 ammonia compressors operated by 10-hp. motors. This was originally a brine job, and furnished refrigeration for a candy room 8 by 8 ft., a bakery box of the same size, 51 feet of display cases, a fresh meat box 8½ by 15 ft., a smoked meat compartment 8 by 14 ft., a vegetable box 8 by 9 ft., a butter and egg compartment 5½ by 8 ft., and a cheese box 8 by 14 ft.

Use of brine was discontinued several years ago due to leaks and faulty insulation. At that time the bakery and candy rooms were put on a low pressure machine, and the balance of the plant on direct-expansion ammonia.

A few years ago the building burned, and much of the equipment was destroyed. Consequently, the company decided to install modern equipment replacing the ammonia plant.

The fresh meat box was completely removed and was replaced with a self-supporting steel framework to hold both meat tracks and coils. Additional coils were added, and aluminum disseminator pans were hung under each of the four ceiling coils.

A drinking water coil, consisting of a double run 2-in. pipe, was installed below the pans. It was found that this setup could be handled nicely by a 3-hp. Frick unit, the box being held at a temperature of about 35° F. without any ice forming on coils.

The smoked meat, vegetable, butter and egg, and cheese boxes are now refrigerated with a Frick 3-hp. unit. Peerless three-speed diffusers are used in each of the rooms. Each fan is controlled by a room thermostat.

The condensing unit is controlled by a pressure switch. Each of the large machines is fitted with a surge tank to smooth out the operating and defrosting cycles and to keep ice from forming on the evaporators.

A 2-hp. Frick unit refrigerates the 32 feet of new display cases and the new 16-ft. single-duty meat case. Each case is furnished with a thermal expansion valve, and the machine is operated by a pressure switch.

After installation of the new system, the store reported a reduction of operating expense amounting to $85 per month for electricity and $50 per month for water.

University of Illinois Ice Cream Short Course Is Planned for Feb. 23-26

URBANA, Ill.—Mechanical refrigeration, testing of dairy products, processing and freezing of mixes, judging ice cream, ice cream defects, and manufacture of fancy ice creams, ices, and sherbets, are among the subjects to be discussed at the University of Illinois' four-day course in ice cream manufacture to be sponsored by the department of dairy husbandry, Feb. 23 to 26.

The course has been designed not only for beginners, but also for experienced operators who wish to learn the latest methods of the trade.

A $2.50 fee will cover the cost of the entire course, including the manual of lectures. Special prizes will be awarded to winners of the students' judging contest to be held on the last day of the course.

Carrier Issues Booklet On Line of Compressors

NEWARK—A new bulletin titled "46 Years Experience," describing its complete lines of compressors, cold diffusers, and evaporative condensers has recently been issued by Carrier Corp.

The bulletin calls attention to the fact that the first successful small refrigerating machine was built in 1890 by Carrier-Brunswick, and cites the company's later pioneering work in building self-contained condensing units, unit coolers, forced air cooling, and evaporative condensers.

In addition to regular models, auxiliary equipment for special applications is also shown in the bulletin. Several pages of installations, diagrams, and testimonials are included.

Finds Store Manager In Order to Close Commercial Sale

DESPLAINES, Ill.—Getting people jobs in order to make sales is all in the day's work for salesmen of Sigwalt Refrigeration Co., Kelvinator dealer.

One commercial equipment order was rapidly fading out of the picture because the prospect could not find a capable manager for this business, and consequently was practically ready to close up. The Sigwalt salesman, knowing this, determined to find a suitable manager. He ran an advertisement in the *Chicago Tribune*, interviewed several applicants, picked out ones most nearly qualified, and sent them to the refrigeration prospect. The prospect not only hired one of the men, but also bought the commercial equipment.

A woman told one of the Sigwalt salesmen that she would buy a Kelvinator if her daughter could get a job. The enterprising salesman called on a friend of his who headed a large concern. The girl got her job, the woman got her Kelvinator, and the salesman got his commission.

Peggy Campbell, home economist for Gambill Co., Inc., Chicago distributor, often gives promotional aid to Sigwalt salesmen. Miss Campbell happened to be alone in the Sigwalt office one day, and so answered the phone when it rang. The caller wanted someone to collect a small service call bill. Miss Campbell volunteered to collect the money, and six hours later brought it in accompanied by an order for a model SD7-36 Kelvinator. The buyer claimed that it was the first thing that he had ever bought sight unseen.

Westinghouse Builds Line Of Enclosed D.C. Motors

EAST PITTSBURGH, Pa.—A new line of type SK explosion-tested, fan-cooled, totally-enclosed direct current motors recently was announced by Westinghouse Electric & Mfg. Co.

Available in sizes from five to 75 hp., in 115, 230, and 550 volts, these motors are designed for use in locations where explosive gases or dust may exist, and are built and tested to withstand an internal explosion of gas (methane) or coal dust without injury to the equipment and without emitting flames or sparks which would ignite surrounding gas.

The motor is designed with fan on the commutator and so that a gear case, coupling, or pulley will not restrict ventilation. Accessibility is obtained by use of a double walled bracket on the commutation end. This bracket is equipped with hand hole covers which are removable to permit inspection and adjustment of the brushes and commutators.

To guard against the covers being removed by unauthorized persons, each cover is provided with a hole in the web for insertion of either a wire meter seal or chain and lock.

The presence of a fan on the commutator end, forcing a large volume of cooling air through properly located air passages, makes possible high continuous capacity with minimum size.

Instantaneous Freezing Plant for Oysters Being Built

SOUTH BEND, Wash.—Construction of a $50,000 oyster processing plant has been started near here by W. E. Priestly, Seattle. This plant is based upon a new instantaneous freezing process designed to prevent mushiness in the thawed oyster.

Buildings are being rushed to completion so that they will be ready for oystering operations of Willapa Oyster Growers Association.

The entire freezing process and plant is a development of the rapidly growing Washington State oyster industry made possible by importation of Japanese seed.

Counter Freezer Users Plan Group Program

DETROIT—Cooperation with state and city health departments, adjustment of license fees to a uniform basis, and protection against any adverse legislative action at the coming session of the Michigan legislature were among the projects proposed for group action by Michigan counter freezer operators who met recently.

L. G. Macomber, proprietor of "The Conery," Detroit, was elected chairman, and Jerold Marshall was selected as the association's attorney.

New Refrigerated Diesel Trawler Put into Service by Boston Fishery

BOSTON—"Storm," first of the three new Frick-refrigerated trawlers constructed this year by Bay State Fishing Co., sailed on its trial voyage in September carrying a party of guests which included prominent Boston banking and marine officials, business executives, and newspapermen.

The three Diesel-powered boats, each reported to have cost $200,000, were built at the Bath Iron Works, in Maine, and embody many new features of design.

The ships have an overall length of 144 ft. 8½ in., a beam of 25 feet, and a depth of 13½ ft. The main engines are supplemented by 130-hp. auxiliary Diesels. Generators provide current for pumps, winches, refrigerating equipment, and other small drives.

Fish-Holds Effectively Refrigerated

Most novel feature of the new boats is the use of nickel-lined fish holds, combined with an effective method of refrigerating this space, in which the fish are packed in ice. This fish hold is located amidship, rather than in the stern where it is commonly placed, and even the welds in the lining are covered with nickel.

The nickel-steel shell stands six inches away from the hull of the vessel. Half of this intervening space is insulated with cork-board, and the remaining half is used for passage of the refrigerated air.

This air is chilled to 35° F. or below over finned coils in a unit cooler. The coils are connected to a 4 by 4 ammonia unit placed in the engine room. The water regulator has been removed from this unit and has been replaced by a water pump driven through a V-belt from the main motor which is of the direct current type.

In addition to the system for cooling the hold, each vessel has a ⅓-hp. Frick low pressure unit installed in the engine room for cooling a refrigerator in the galley overhead. Inner dimensions of the refrigerator box are about 7½ by 2 by 6 ft., and the box is insulated with 4 in. of corkboard. A coil made of ¾-in. galvanized pipe, and designed to maintain a temperature between 32 and 35° F., covers almost the entire back of the box.

Each of the ships carries from 20 to 40 tons of ice, instead of the usual 60 tons, and the fish capacity is approximately 30% greater than the 300,000-lb. capacity of the ordinary trawler.

McCray Equips Sea Food Grotto in Cleveland

CLEVELAND—Sales of McCray commercial equipment for unusual specialized uses include the 102 McCray cooler installed in the Sea Food Grotto here, for the storage of sea foods (mainly lobster), reports J. N. Bolton, manager of the McCray branch here.

An F-10 case to be used for the storage of imported cheese, was sold to De Marinis & Co., Youngstown, Ohio. A. R. Cardillo, who sold the equipment, also sold an F-8 case which is being used as a side-walk market for fruits and vegetables only, in the store of San Angelo of Youngstown.

An institution sale made recently by J. N. Bolton was that to the Mount Royal Sanitorium, Cleveland. Equipment sold consisted of a special two-compartment cooler 12x6x8½ feet, with machine equipment.

Kentucky Ice Cream Tax Thrown Out

FRANKFORT, Ky.—Kentucky ice cream dealers won another round in their fight against the 28 cents per gallon state tax on the sale of ice cream, when Judge W. B. Ardery of Franklin Circuit Court held the law unconstitutional.

Judge Ardery has previously held the tax unlawful, but on an appeal to the Court of Appeals, the case was remanded to the lower court for further proof.

In granting the petition of Aniello Nocero, Covington, Ky., ice cream dealer, for an injunction to prevent the collection of the tax by the state commission, Judge Ardery ruled the tax was discriminatory, if not substantially confiscatory.

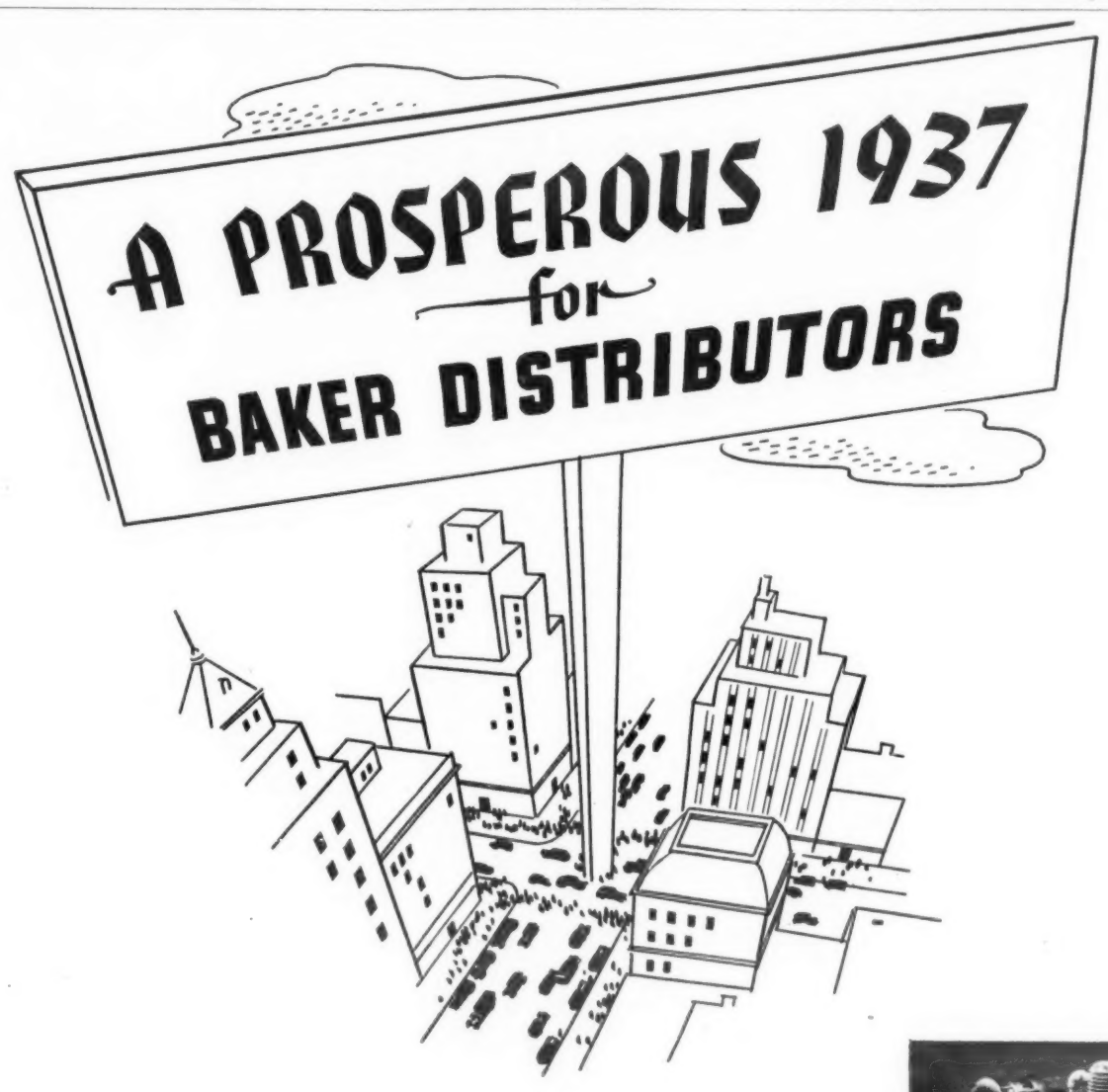
"The evidence is clear and uncontradicted," the judge said, "that the method adopted in the act of taxing the first sale in Kentucky results in a discrimination of 25% or more in favor of the out-of-state distributor, and against the Kentucky distributor."

Seeger Displays Line In Prospect Folder

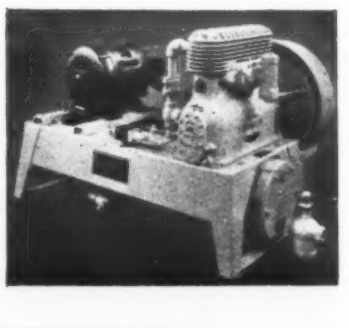
ST. PAUL—A promotion folder describing its line of display cases, cabinets, and beer equipment, designed for mailing to prospects, has been prepared by Seeger Refrigerator Co.

Listing eight advantages of Seeger refrigerated display cases and commercial cabinets, the folder illustrates various Seeger features, and shows photographs of actual applications of Seeger equipment.

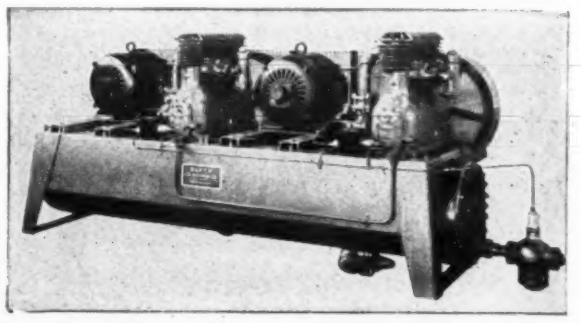
A business reply card is attached which the prospect may send to the company for detailed information on Seeger display cases, commercial cabinets, or all-steel beer equipment.



ON every side well informed prophets are forecasting even bigger profits for air conditioning and refrigeration dealers in 1937. Baker distributors are ready to enjoy their share of a prosperous New Year. They will be backed by the largest advertising campaign in Baker's history; the full sales and engineering assistance of Baker's main offices and strategically located branch factories; the commanding leadership of Baker's thirty years' experience in manufacturing mechanical cooling equipment. Moreover, Baker's complete line means multiplied sales and greater customer satisfaction—for there is a Baker unit to fit exactly every air conditioning and refrigeration requirement. Several profitable territories are still open. Baker invites inquiries from interested, reliable dealers.



Baker features the most complete line of small and medium capacity units on the market, ranging from ¼ to 60 H.P. for every variation in refrigerating requirements.



Another triumph for Baker engineering! Baker Dual Unit with Automatic Capacity Control for low cost air conditioning service.

BAKER

ICE MACHINE COMPANY, INC.

1506 Evans Street

OMAHA, NEBRASKA

Branch Factories:
Fort Worth, Los Angeles, Seattle
Eastern Sales: New York City
Central Sales: Chicago

AUTHORITY ON MECHANICAL COOLING FOR OVER 30 YEARS

Around the World

With George F. Taubeneck

In the last instalment of the year, Editor Taubeneck continues his remarks on Vienna and Austria to comprise the 52nd article in his "World Series," based upon his seven months' world tour.

Previously readers have been taken across the North American continent to Hawaii and the South Seas (including Fiji and Samoa), touched New Zealand, toured Australia from stem to stern, cut through the heart of Java, tarried in Singapore and Malaya, stopped in Rangoon, crossed blazing India, glimpsed Arabia, mosied up the Suez Canal to Egypt, flew over to investigate the Arab-Jew difficulties and Zionist boom in Palestine, steamed over the Mediterranean to Malta and Marseilles, flew over to turbulent Spain, explored Paris, saw Monte Carlo and the Riviera, toured fascist Italy—with a glamorous week-end in Venice, and entrained for Vienna, where we are in this issue.

Social Justice

Decorpitated Vienna, unable after Versailles to support itself in the luxury to which it had become pleasantly accustomed, devoted itself to something which the poverty-stricken have never before been privileged to obtain: justice.

First of all, social justice. Viennese political thinking by the end of the war was predominantly socialistic. And when the Social Democratic party swept into power in 1919, the system of social reforms (like old-age and unemployment insurance, sickness and accident benefits, decent housing, and humanitarian labor conditions) which are now penetrating the entire world got their first real try-out.

Next, political and personal justice. Its a creed which works; and here's why: The Viennese love to talk. They love flowers and music and literature and drama—and good coffee. They do not like to be ill. They like to be friendly with one another. These things—*human* values—mean more to them than pomp and circumstance, pride and power.

Pageantry begets persecution. To the Viennese, mad competition for place and position is a bit foolish. In comparison with citizens of other great metropoli, they are apt to be the most charitable. Justice to the *individual* is dearer to them than *national* vanity.

Does another nation seek glory and hauteur? Let them! The Viennese want peace, but not badly enough to spit fire about it. They don't want to fight about anything. Poor? Sure. But a citizen of Vienna can be more reasonably certain of obtaining justice in his city than can the citizen of any other spot on the Continent.

Of all municipal governments, Vienna is said by most competent observers to have the least corrupt, the most high-minded and altruistic.

This may be a startling concept, but it does seem to the writer that the Viennese mind may be compared with the Chinese. Both are essentially unambitious, personally and nationally. Both delight in a culture of a high order. Both are deeply philosophical. Both are casual. Both are realistic. And each is sensitive to human values.

* * *

Austria Is Born

Previous to the Versailles Treaty, there was no Austria, as such. Thus the "Peace" which robbed the Austrians of their wealth conversely gave them the first political autonomy they have ever enjoyed.

For centuries "Austria" had been only a name, a state of mind. A welter of different races lived conjugally in common fealty to the Hapsburg family, and that's just about as far as national determination went.

Those Hapsburgs were an odd family. Not once did they produce a really strong man (although several of their women were vital and vigorous characters). But they grew and prospered and extended their influence until, under Charles V, they controlled most of Europe, parts of Africa, and portions of North, Central, and South American.

How? Simple. They married well. Successfully they wooed wealth, power, regal blood. No family in world history has ever been so international. Today's banking Rothschilds are mere parvenus in comparison. The Hapsburgs were generally genteel, charming, and great linguists, with diplomacy and taste and—unlike the "marrying Mdvanis" of today—good breeders.

Their success formula was something like that of the man who told a reporter that he owed his high station in life to "hard work, perseverance, thrift, abstinence from alcohol, and marrying a wealthy widow."

The Hapsburgs always operated out of Vienna, extending outward or retreating, as their fortunes soared or waned. Last of them to count, the beloved Franz Joseph (who died during the progress of the World War), probably did the most to give Vienna the physical appearance she wears today.

Destroying the age-old fortifications of the Old Vienna, he converted the embattled ellipse into the lovely Ringstrasse—that chief boulevard of Vienna, within the confines of which are the Maria Theresa Platz (square), the Historical Museum, the Parliament Building, the Hofburg, the Burg theater, the Staatsoper opera house, and other public edifices, most of which were constructed during the Franz Joseph reign.

Having been for centuries a fortified town within walls, Vienna had become almost bulging with people and buildings by the time the World War broke out in 1914. It was not until long after Napoleon had ceased to be a menace to Vienna that the city had begun to expand beyond the old ramparts.

The idea of fortifications was abandoned in 1857, during the early part of the reign of Emperor Franz Joseph. The pressure of the congestion was relieved for a time, but the rapid growth of the city as an industrial center soon brought back the familiar strain of overcrowdedness.

The streets were narrow, houses were huddled together in the older sections of the city, and there were not enough decent dwelling-places to go around. Consequently, there were many people who had to make their homes in attics and in cellars, the great majority of such places being unfit for human habitation. It is a matter of record that in 1903 there were 5,575 underground homes in Vienna!

When the full impact of the war hit Vienna, the building trade, like many others, came to a standstill. No more houses were being constructed. The population, though at first lessened when the troops went to the front, soon increased somewhat as families from outlying areas sought food and shelter in the city.

* * *

Housing Survey

In 1917, there was conducted a survey to determine the seriousness of the housing problem of Vienna. It was discovered that almost 75% of all the living quarters in the city were small, cramped flats inadequate in size and in comfort for even the simplest manner of living.

Most of these dwellings had but two rooms, and because of the high rents they were occupied by more than one family in many cases, and by large families and lodgers in as many more.

Indeed, there were many families which had to exist in one-room apartments, all badly ventilated and improperly lighted, and almost all of them squalid. Very few of these "homes" were equipped with gas for cooking and lighting.

It was in this deplorable condition, then, that Vienna found herself in 1919 when the empire had passed into history and the Social-Democrats had gained control of the city government. Prompt action was called for, and the Socialists delivered.

* * *

Confiscation by Taxation

One of the first moves made was the passing of a bill to reorganize the city taxation system. The wealthy classes were subjected to very heavy taxes, while the poorer classes were relieved of a considerable amount of their former dues.

A rent restriction measure was drafted whereby landlords found themselves taxed excessively.

The rent restriction measure brought in considerable revenue for the city government to use. By the provisions of that measure house rents were lowered to as much as one-fifth the pre-war rents, so that the landlords' incomes were greatly decreased.

A housing tax was then added to the rent which the landlord had to pay. The tax, by the way, was based not on the new low rents, but on the high pre-war rents!

So great was their tax that they quickly found it unprofitable to continue being landlords, and private enterprise in the real estate, property, and housing businesses was all but extinguished.

The city government then proceeded to buy up at unusually low prices large numbers of mortgages and deeds, and when the land was acquired, plans were made for the construction of municipal dwellings for the working classes.

Large apartment houses were decided upon as the most economical form of housing, and it was also decided to pay for the construction of them out of current tax funds.

The acceptance of a loan was considered, but promptly rejected, because it would have been against Socialistic principles to borrow money from capitalists and then pay them interest.

Within a short time tenement buildings were completed and opened for habitation. Rents were fixed at amounts just high enough to cover the cost of maintenance, no charge being made for the cost of construction. The latter had amounted to about $112,000,000.

In view of the fact that the general labor wage was still very low, it was necessary for rents to be kept proportionally low to prevent widespread poverty and possible panic. As wages have gradually risen, however, the rents have likewise been increased.

During the decade of 1920-1930, about 10% of the total population of Vienna, or approximately 175,000 persons, were housed in the municipal apartments. Since 1927, there have been built each year about 525 single-family homes in the municipal "garden city" project, an idea similar to the apartment building plan in purpose, but not in design. The typical "garden city" is a cluster of small, two-story homes grouped together to form a "town within a town."

Viennese Apartments

In apartment house construction between 1923 and 1930 the Vienna municipal government spent approximately $93,432,100. The peak year of that period was 1926 when the amount laid out reached $16,464,570.

By the end of 1932 there had been built, in the municipal housing program, 64,000 apartments. Considering the average number of people per apartment as four, it is concluded that between 1920 and 1932 the government of Vienna had provided homes for 256,000 of its citizens.

Many of the municipal tenement buildings are named after men prominent in the history of Marxian Socialism. There are, for example, the Karl Marx Hof, the Lassallehof, the Ebert-hof, and the Bebelhof.

One building—shades of our Liberty Leaguers!—is named in honor of the Father of the United States, the George Washington Hof.

In each of the 21 wards of Vienna there is at least one tall apartment building. Contracts for their construction are awarded to the lowest bidder, and the keen competition among contractors helps assure the city of reasonable prices.

The successful bidder hires his own workers, but the building materials are provided by the city. All materials are bought wholesale in huge quantities.

Buildings themselves are all designed in the same, general pattern. The typical tenement house is built around a central courtyard, from which the name "Hof," and is about five stories high. It must not, according to municipal regulation, cover more than half the area of the plot of land on which it stands.

It is fireproof, and the floors are made of reinforced concrete topped by oak flooring. Bricks have been introduced lately in place of concrete in some buildings. The outer walls of the structure are covered with stucco.

There is no elevator, but there are many staircases. It is a regulation that not more than four apartments on each floor open onto the same staircase.

Apartment buildings housing over 300 families are equipped with large, modern laundries in the basements, the laundries being divided into individual compartments. Use of a compartment is granted upon request, and a small charge is added to the rent bill. Each applicant is allotted a certain "wash time" in order to prevent confusion.

Impromptu family washes in the kitchen sink are taboo—likewise clothes-lines strung between windows or posts.

There is also a regulation concerning carpet-shaking. A specific "place de shake" is reserved for the purpose, and any housewife caught waving rugs from her window is subject to strict reprimand.

To return to the laundries, each compartment is equipped with an electric iron, and there are modern wringing and drying devices installed in the room. All appliances are in the care of the house mechanic.

The apartments have communal bathrooms with many tubs and showers. A small fee is made for their use.

Keeping of cats in apartments is strictly forbidden, and special permission is necessary for the keeping of "dogs and lodgers." Dogs are confined to the apartments located on the outer edge of the building, so as to restrain them from straying into the courtyard.

The courtyard is a well-laid out garden patterned in flower beds, benches, trees and shrubs, possibly a wading pool and a fountain, a small playground for children, and other features intended to provide beautiful surroundings, rest for the tenants, and exercise for the children.

To give an idea of the size of these Gemeinde, as the municipal apartment buildings are called, the establishment known as Erdberg is composed of 75 tall tenement houses, all connected to make a uniform mass. The Heiligenstadt dwellings have a frontage of more than two-thirds of a mile.

Almost all the tenants of the municipal apartments are Social-Democrats, and vote accordingly. The children are thoroughly trained in the principles of Marxism by the attendants in the kindergartens, of which there are more than 100 in the municipal tenements.

In general, the apartments are built according to the same design. Each is made up of a small entrance hall, a kitchen, one large room, one other room somewhat smaller, and a compact lavatory. The average floor area is about 430 square feet, and rent is charged at so much per square foot of floor space. And for that set-up you pay from $1.25 to $1.50 *per month.*

Each apartment has electric lights, a small gas cooker, and a metal, coke-burning stove for heat. In the customary interests of economy, central heating and private bathrooms (ie. tub and shower) have not been installed in the buildings.

* * *

Linked Bungalows

A departure from the large apartment building is the linked-bungalow idea, of which the settlement known as Sandleiten is a good example. Before the Socialists' housing program got under way, Sandleiten was a refuse dump. Today, it is an attractive "garden city," with almost 1,600 homes housing a large number of Viennese workers' families.

The houses, most of them two-story flats, are grouped together in large units, and the entire aggregation forms the colony of Sandleiten.

There are three large, modern laundries, three public bathhouses, three day homes for children, a kindergarten, two spacious playrooms, a cinema that can hold 600 people, an auditorium, a committee room, a tea room, a post office station, a wading pool, a large, well-tended park, a playground, an open-air bath for children, and a swimming pool for adults.

On the premises are leased 75 business establishments to provide the inhabitants with all the goods and services they desire. There is also a doctor's home and office, and a chemist shop.

The typical Sandleiten home is two stories high, has a cellar, gets its water supply direct from the main system of the city, is equipped with both gas and electricity, is built on a lot of about 2,150 square feet, and rents for only $3.70 per month.

* * *

Fortified Homes

There has been prevalent in Vienna for several years past the belief that the Gemeinde are not merely intended for use as apartment homes, but are also adaptable as strong fortresses in which the people could mobilize against their enemies both for defense and for attack.

The buildings themselves are heavily built, being a great part concrete, and are so constructed that the inner courtyards are safe havens for women and children. They also have high towers which could be used as observation, signaling, and machine gun posts.

Then, too, the Gemeinde have been located so that they "protect" practically the whole city. As has been mentioned before, there is a municipal apartment building in every ward. Some are built on the main thoroughfares, one is a neighbor to the barracks, another hovers over the principal railroad station, two have the Danube Canal and its bridges under their shadows, and several line the main railway tracks.

Even though the Gemeinde may not have been planned originally as military strongholds, they could be, and have been, used for that purpose.

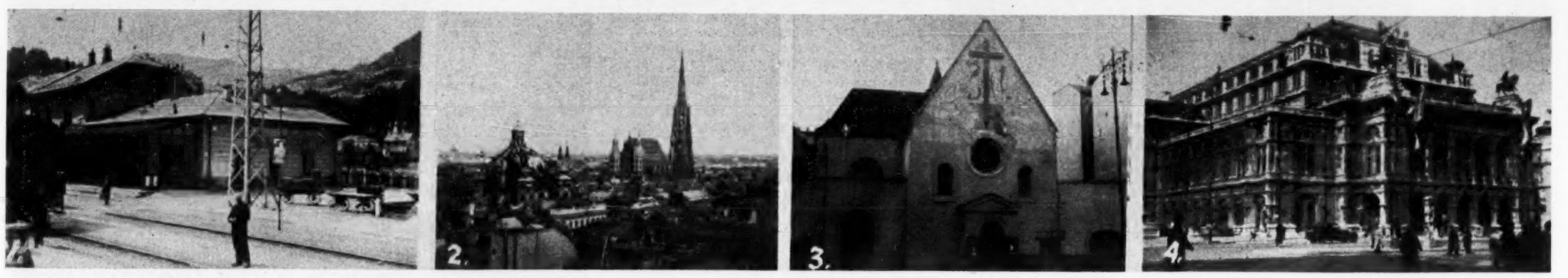
In February, 1934, gunfire between the Socialists and their foes broke out and lasted for four days; and during that time the Socialists were entrenched in their apartment buildings while their adversaries bombarded with light cannon. The battle was fought to a draw. But it was proved fairly conclusively that the municipal tenement houses can "take it."

(*Continued on Page 7, Column 5*)

Austrian Tyrol New Playground for Those Who Like Mountain Scenery and Sports

1. Almost the whole of the Duchy of Lichtenstein, a quasi-independent state of less than 30 square miles in the Tyrol, may be seen in this snapshot. Benevolent ruler of Lichtenstein is the wealthy and erudite Prince of Lichtenstein, who is ranked in the top flight of the world's regality by the Almanack de Gotha (Social Register of royalty and titledom). 2, 3, and 4. Scenes in the beautiful Austrian Tyrol, snapped from the window of a moving train. Austria now consists largely of mountain scenery, with occasional patches of land which may be cultivated, interspersed between snow-clad peaks and ski jumps.

Austrian Architecture Both Bizarre and Baroque; but Always Individualistic



1. Railway station high in the Tyrol, near the Swiss border. All these mountain railroads are electrified. 2. Rooftops of Vienna, giving glimpses of the baroque architecture which so flourished in Vienna during the Hapsburg regime, with the spire of St. Stephen's cathedral in the distance. 3. One of the smaller Viennese churches. 4. State Opera House, pivotal point of the city's social life.

(*Continued from Page 6, Column 5*)

Potpourri

The city government of Vienna now owns almost a third of the entire area of the metropolis, which sprawls over more acreage than any city on the Continent—a result of the Socialist buying wave preparatory to the launching of the housing campaign.

* * *

Austria at present has a constant unemployment list of about 100,000 men and women.

* * *

In 1932, there were in Vienna over 50 public bathhouses whose annual attendance averaged about 10,000,000. The largest of these establishments is in the factory district, and can accommodate 3,000 people at one time.

* * *

Provisions of the Austrian national constitution grant the city government of Vienna practically complete freedom in the matter of the city's administrative and fiscal affairs.

* * *

Vienna's administration conducts without profit more than four-fifths of the funerals in the city. It also controls about 90% of the advertising space of various kinds, taking a small annual profit, which is added to the civic fund, and expended in governmental activities.

The Viennese government owns its own brewery, which produces about one-fifth of the beer sold in the city. The government also holds a monopoly on the gas and electricity supplies, and on the systems of public transportation, taxicabs excluded.

* * *

Vienna in Essence

The glamour of Paris, the modernity of Berlin, the gayety of Budapest, the picturesqueness of New Orleans, the mechanization of Detroit, the brashness of Los Angeles, and the reserve of London are all mingled in personality of the Austrian metropolis, Vienna.

Lovely ladies in fashionable gowns, romantic spring nights, music and dancing and shows—glamour and gayety.

Imposing apartment buildings, glassy new suburban homes, superstreamlined automobiles, New Yorkish show-windows, line production factories—modernity and mechanization.

Narrow, winding, cobble-stone streets, old-fashioned houses, venerable churches, solemn processions, feudal castles and hoary palaces—picturesqueness and tradition.

Informality, bordering on familiarity, between strangers on Vienna's streets is remindful of the engaging unconventionality of young Los Angeles.

Sober-visaged business men, conservative bourgeoisie, and impressive edifices give Vienna its share of reserve.

Vienna is like an enticing woman with a past.

* * *

Design

Vienna has been blessed with about as much planning as a drawing scrawled on a scratch-pad in a telephone booth. To use an expression of the eminent Longfellow Deeds, who cinematographically went to town, an assorted group of "doodlers" must have been in charge of the designing of the city.

In plain words, it sprawls. Yet somehow its sprawling posture doesn't seem ungraceful. Fact is, its helterskelterity is part and parcel of its charm.

* * *

History

The original foundations of Vienna were laid by the Romans in 59 B. C., when they built Vindobona, their farthest bulwark against the marauding hordes of Asia.

Marcus Aurelius spent ten years of his reign in Vindobona, and died there on March 17, 180 A.D., his remains being cremated with great pomp and cermony near what is today Ulrichsplatz.

Attila the Hun, "the Scourage of Europe and of God," led his barbaric armies against the Romans all along the Danube about 440 A.D., at which time he destroyed Vindobona.

Charlemagne lived near the ruins of the settlement from 788 to 796 A.D., and during that period the Vienna of today had its real beginning. (In the process of expansion, the ruins of Vindobona have been built over.)

After the death of Charlemagne in 814 A.D., the Huns and Magyars took control of the city, holding it until they were defeated and driven out in 955 by Otho I, and the territory returned to the Germans.

From then until 1273 Austria was ruled by the House of Babengerg, the fifth Duke of which dynasty made Vienna the capital of Ostmark, as Austria was then known.

The advent of Rudolf of Hapsburg in 1273 marked the beginning of the rule of the House of Hapsburg, a reign which lasted until 1918.

Legions of the Crusaders assembled in Vienna for their marches to the Holy Land. During this period Vienna prospered greatly from the constant traffic between Europe and Palestine.

It was in the castle of Duernstein on the Danube, not far from Vienna, that Richard the Lion-Hearted was held captive by Leopold on his way back to England from Palestine.

Maximilian I reorganized the University of Vienna, and developed the Universities of Ingolstadt and Freiberg during his reign, which lasted from 1493 to 1519.

In 1683, the Turks were defeated just outside of Vienna in their last attempt to overrun Europe.

To Empress Maria Teresa, who ruled from 1741 to 1781, is credited a great part of the optical opulence with which the Vienna of today has been endowed, for at her behest were built many eminent public edifices, among them the School of Theresianum, Schonbrunn Palace, the first orphan asylum in Europe, and a score of educational institutions.

These are but highlights of the story of a city which has lived one of the fullest and richest of municipal existences. But how well they illustrate the old saw: "Properly there is no history; only biography."

* * *

The Ringstrasse

Old Vienna lies between the Ringstrasse and the Danube Canal; new Vienna lies outside this section and reaches to the Danube itself.

The Ringstrasse, popularly known as the Ring, is the centre of interest and activity, for here in abundance are the hotels, parks, palaces monumental buildings, cafes, clubs, theaters, coffee-houses, shops and promenades. It is the Loop, the Broadway of Venice.

The Ring is like a will-o'-the-wisp; it goes wherever fancy decides. It is one of the most indefinite streets ever to course through the maze of a city's heart—but one of the cheerest and most colorful.

* * *

Viennese Traits

In discussing Vienna and the Viennese we shall not refer to the mass of the citizens, the plain, work-a-day people who make up the solidarity of the city, for their lives—like the sex of hippopatami—are of interest only to themselves.

By Viennese, we mean the few thousand people who frequent the coffee-houses, stroll in the streets, attend the opera, the musical comedies and the plays, spend their money on seemingly foolish things, and live the lives which, *en masse*, form the renowned "Life of Vienna."

Viennese are inveterate strollers, and are to be seen at all hours of the day and night, just aimlessly meandering around the busy streets.

Men and women in modish clothes, youths and girls in blouses and leather shorts (the majority of the girls have two excellent reasons for wearing shorts), Tyrolese in their feathered caps and embroidered native costumes, and even a few Turks wearing fezzes and baggy pants are all in the parade of amblers.

This daily procession is called The Vienna Corso. It begins quite early in the morning with the "common people," walking to work, or just walking.

Ladies of society rarely are out of bed before noon. After they arise and perform their ablutions, they trot out to The Corso and form the fashionable parade until two o'clock or so, mainly on Kartner Strasse and Graben with a possible detour, along the inner side of The Ring from the Opera House to Schwartzenbergplatz.

The "common herd" are out of the coffee-houses by that time; so in for a sip and a nibble go the social registerites.

During the supper hours The Corso is a conglomeration of all classes of people. Around theater time the number of strollers reaches a maximum, after which the crowd thins, until ten o'clock, when the theater and amusement halls disgorge their laughing hordes.

For about an hour, then, The Corso hits a merry pace again before slowing to a shambles for the night.

Saluters and Responders

A well-represented species of promenaders is the "Saluters and Responders" gang. The Saluters are usually young men of the "masher" variety. The Responders, and potential Responders, are girls of all classes and descriptions. Apparently any girl is fair game, and it's always open season.

The accomplished Saluter espies a fair young damsel, decides to flatter her with his attentions, determines by careful investigation just when and where she is most likely to be encountered, stations himself at that place at that particular time, and digs in for a sustained barrage of salutes.

As she passes by he doffs his hat, if any, and greets her with a honeyed voice. If at first he doesn't succeed, this daily process is maintained until one of three conclusions is reached: (1) The pretty young thing breaks down and responds, in which case victory is the Saluter's, and to the victor go the spoils; (2) the Saluter calls the whole thing off as a bad investment; (3) the girl becomes bored with the sight of the Saluter, and steers clear of his station.

The game isn't confined, we were told, to the youthful element. Old bachelors (or are they all?) are to be seen bowing greetings and doffing hats, too. It's a game for young and old; nor does it seem to be without merit. The system of formal introductions is a prudent precautionary and safety measure, but it does prevent the flowering of many potential friendships.

Speaking of girls, we should like to say that the prevalent notion that the girls of Vienna are among the most beautiful to be found in Europe is a phony. They are famous, and deservedly, for their Mae West figures. But beauty? Well, er . . .

Girls of 12 and 13 years of age are developed more than American girls at the age of 16. But they lose their beauty—and their figures—too soon. By the time they reach 25 they've traded in their peaches-and-cream complexions on a heavier chassis. Vienna is certainly the spot for women to be popular and comfortable at the same time, because the Viennese men like 'em hefty.

Since the opening of the large, artificial-ice rink in the Eislaufverein, the Viennese have been gliding around in droves, especially on a Sunday, and the Ice Corso has become a rival to the legitimate Corso.

It is here, we might guess, that the Respondents in Vienna's most popular pastime become co-respondents.

* * *

Coffee

From personal experience, the writer is ready to testify with considerable vehemence that most European coffee possesses the constituency and taste of yesterday's dish-water flavored with cheap castor oil.

But the coffee served in the hundreds of *Kaffeehausen* dotted around Vienna is an exception. It is "roaster fresh" and has that "rich, full-bodied flavor" of the coffee advertisements in American magazines which had for months been driving me frantic in agonies of unrequited desire.

These coffee-houses of Vienna actually specialize in serving coffee to their innumerable patrons. Other European restaurants which take the name of coffee for a title—like *cafe* (French) and *caffe* (Italian), aren't at all interested in coffee, preferring to exercise their undeniable catering talents on the serving of wines and rich foods.

The establishments have, in general, become an inseparable part of the life of Vienna, and a few in particular have become as fixed and famous as Schonbrunn Palace or the Opera House.

To hundreds of Viennese a pleasant evening consists of sitting in a *Kaffeehaus*, sipping *Kaffee mit* or "mitout" *Schlag*, munching *ein Kipfel* (crescent roll), reading several of the many newspaper supplied (on library file sticks) by the proprietor, talking *mit Freunden*, and both absorbing and exuding life in a slow, easy, pleasant manner.

It is in the coffee-houses that business deals are made, revolutions plotted, rendezvous arranged, and poems, plays, and novels conceived.

Particularly in winter the *Kaffeehaus* is crowded with noisy, happy customers, for during the summer the sidewalk cafe draws the heaviest patronage.

Restaurants of character are numerous in Vienna, the most famous being Sacher's. Sacher's is an integral part of the hotel of the same name on The Ring, and was managed, until her death about 1928, by Frau Sacher, friend of the nobility before 1918, and "mother" to them all after the fall of the Hapsburgs.

Frau Sacher was a much-beloved, if outrageously unconventional, character. Her memory has been preserved by Robert Sherwood in his play *Reunion in Vienna*, which Lunt and Fontaine brought to life on the New York stage.

Her son has been managing the establishment since she passed away, but with her departure went some of its popularity and renown. During my stay at the Sacher I was shown more autographs of famous Europeans—all on a single table-cloth—than I ever expected to see during the rest of my life.

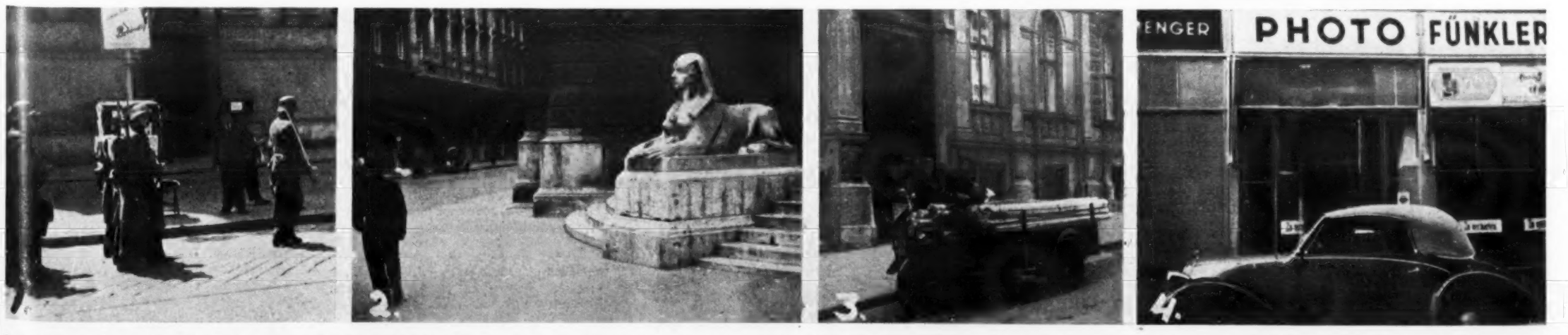
A foreigner in a Viennese restaurant is likely to meet a few perplexing problems in the matter of language, unless he be fluent in German.

Most of the waiters can speak a smattering of English; but this hinders rather than helps the "green" tourist, because many of their adapted phrases and expressions are all but unintelligible.

This quaintness of tongue spreads even to the menu. For instance, among the list of foods on the card you may run across the word "Hemetex." From its sound and spelling you would decide it wasn't a German word, and you would be correct in surmising that it has no place in Webster's Dictionary of the English

(*Continued on Page 8, Column 1*)

Novel Features of Life in Vienna, the 'Decorpitated' Capital of Central Europe



1. Detachment of the Heimwehr (Home Guard), the private army of the peasantfolk. Organized and supported for years by Prince Stahremberg, it later was subsidized and controlled by Mussolini. The peasants do not always see eye-to-eye with the cityfolk of Vienna. 2. The Sphinx of Vienna. 3. Here is a three-wheeled light delivery truck, built onto a motorcycle. It is said to be most economical. 4. Austrian motor car. Note rakish styling and short wheelbase. Most European cars belong to the "baby Austin" category. Gasoline is so high that small motors are demanded.

Around the World

With George F. Taubeneck

(*Continued from Page 7, Column 5*)

language. Eventually it would be revealed to you that "Hemetex" is a Viennese perversion of American "ham and eggs."

There are a number of terms and names commonly used in the Viennese coffee-houses which are almost indispensible to the foreigner who doesn't want to appear to be too much of a greenhorn. We have compiled some of these into our "Abbreviated Hand-Book for the Kaffeehaus."

Eine Teeschale—The term used when ordering a cup of Melange, a mixture of coffee and milk.

Mit oder ohne?—When the waiter asks you this question he wants to know whether or not you prefer a blob of whipped cream floating on top of your drink.

Doppelschlag—If you have a weakness for whipped cream and want a double helping of it on your drink, this is what you say to the waiter (it sounds like it looks).

Wiener Fruhstuck — Literally it means Vienna Breakfast. It is a standard morning meal consisting of a roll, butter and jam, an egg, and either coffee, tea, or chocolate.

Schwarzer—One of a variety of black coffees, this one really being an inferior variety.

Mokka—A superior variety of black coffee.

Kapuziner—Black coffee slightly discolored by a faint trace of milk or cream.

Schale Gold—Coffee containing a little more cream than Kapuziner.

Nussbraun—A form of coffee which is very dark and which is served in a tiny cup.

Semmel—That most necessary part of any meal, the roll.

Wasserkipfel—One kind of pastry crescent.

Gugelhupf — A form of Viennese cake in the center of which is a hole.

The newspapers supplied by the proprietors of the coffee-houses are abundant and divers. Regular customers are promptly offered their favorite papers by the head waiter, and strangers are usually given papers which they appear to prefer. This knack seems to be born in some head waiters, and those that have it are greatly envied by their rivals.

You need feel no compunction to leave just because you have finished your meal. If you wish you may sit for an indeterminate length of time reading, talking, or just day-dreaming. But no matter how long you stay you will always find two glasses of water at your elbow. This is a custom of long establishment.

There are those patrons of the coffee-house who make use of the place as their temporary business headquarters. They write business letters, they converse with business acquaintances, they make telephone calls at reduced rates, and they both send and receive mail.

Every member of a Venetian restaurant staff has a title, and some day you may find it useful to know them. First there is the *Besitzer*—the man who owns the cafe. Then *Herr Ober*, he who takes the orders—and the money. (By his air of importance ye may know him.)

The next in rank is the *Speisentrager*, who brings the food and clears the table. Then the *Kuchentrager* falls in line. He is the gentleman, with the large plate of pastries, sleeping in the corner. You may get results by bellowing "Kuchen!" If not, walk over and prod him with an elbow.

Then last—and least—is the jolly little fellow who serves the beer and water, whose title is *Piccolo* (Americans invariably call him "Pete").

And, oh yes, we almost forgot the *Dienstmann*. We don't know just where he comes in, but this we do know—he is highly important to Venetian life and happiness. His service to mankind consists of carrying messages and doing odd-jobs for the guests. He, too, is on intimate terms with Morpheus—the perfect antithesis of action.

But romance could not persevere without him, for the sentimentally articulate Viennese gentlemen employ him to woo the favorable attention of the unknown charmer in the next booth via a verse on the back of a menu, or an ecstatic prose chit.

If a tough-looking gent comes up to you and says in a gruff voice, "Bitte um Feuer!" your cue is not to reach for the sky, but to reach into your pocket for a match. Sometimes this is not necessary, for he is as likely as not to rub noses with you peremptorily while he gets "um Feuer" straight from the cigarette in your off-guard lips.

It seemed to me that all the city clocks were cock-eyed. They all call each other liars, particularly in the railroad stations. The best thing to do is carry a portable sun-dial wherever you go in Vienna.

Telephone conversations are generally haphazard. You ask for a number, and the operator says, "Momenterl!" which, translated, means "Just a minute." You wait and wait, and then you yell a bit. You can holler all you want, but Miss Momenterl probably has gone out to lunch.

Should you, by some miracle or accident, get your party right away, you are apt to find yourself in a four-way conversation with a couple of other 'phoners, or soon talking to nothing but the mouthpiece. The switchboard plugs do not seem to be very prehensile.

Telephone directories in pay stations are usually ancient editions, and they are about as helpful as Poor Richard's Almanack in getting your number.

* * *

Music in Vienna

"Vienna is music, and music is the life of Vienna." This quotation is quite true. Gluck, Haydn, Beethoven, Mozart, Brahms, Schubert, Johann Strauss the elder, Johann Strauss the younger, Richard Strauss, Oscar Straus, and Lehar were, and are, all of Vienna either by birth or adoption.

At this juncture it might be mentioned that American jazz (swing, rag-time or whatever else it may be called at the moment) has been taken to heart by the younger generation of Vienna. Jazz bands blare forth all over the city in cafes, restaurants, and dance halls. Strauss, the Waltz King, must now compete with Irving Berlin and Cole Porter. During my stay I heard at least 50 renditions of a ditty entitled "Goody Goody" to one of "Blue Danube."

Especially do the low-income classes have, though, unrivaled opportunities to hear magnificent music magnificently played. And to the tourist with a tuned ear, Viennese nights and Sundays are aural adventures.

The Vienna Philharmonic Orchestra (Wiener Philharmoniker) is recognized as one of the finest, if not the finest, musical organizations of its kind in the world. It plays at the Opera House during the opera season, and gives concerts in its home auditorium, the *Musikvereins Gebaude*.

The members of the orchestra are outstanding musicians in their own right, many of them being teachers at Academy, and each of them a master of his own instrument. It would seem that certain families have chairs reserved in the orchestra, for there are members whose fathers, grandfathers, and great-grandfathers, not to mention other relations, played in the Wiener Philharmoniker.

Strange as it may seem, individual members are singled out on the streets as readily as are stars of the stage. Their social position is very high.

Directorship of this musical organization is indeed an honored position, and most of the leading musicians in Europe at the present time have had the opportunity to wield the baton in the Vienna "Grosser Musikvereinssaal."

Their repertoire is almost exclusively classical, and includes compositions both venerably old and refreshingly new. The best-loved composers, however, are Beethoven, Mozart, Schubert, Haydn, Wagner, Schumann, and Weber.

Vienna has in her day known many composers. One of the earliest was Josef Haydn, born in 1732. He received his training in Vienna, but being at odds with the theories of Gluck he left the city, not returning until after Gluck's death.

Beethoven is another of Vienna's musical products. A student of Haydn's, he is often referred to by the Viennese as the greatest composer of all time. He came to Vienna in 1792, and lived there for many years, writing all of his great works there.

Mozart first went to Vienna in 1781, and died there 10 years later. During that decade he composed all of his deathless operas.

Franz Schubert was born in Vienna in 1797, and died there when he was but 34 years old. His works are typically Viennese, and he is fondly remembered by the city as one of its most illustrious sons.

Johann Strauss the elder and Johann Strauss the younger were both exceedingly popular in Vienna during their lives, and their works are still received with acclaim. Richard and Oscar Strauss carry on the tradition today.

Brahms, best known perhaps for his Hungarian Dances (the Fifth is just about my favorite piece of music), was another of the long list of Viennese composers.

The best known operatic composers of the present in Vienna are Richard Strauss and Korngold. Of the lighter music composers, the most famous are Franz Lehar and Oscar Strauss.

Vienna is the birthplace of the operetta, or musical comedy, its home being the Theatre an der Wien. Mozart's *Magic Flute* was first presented here, as was Franz Lehar's *Merry Widow*.

* * *

Doctors and Complexes

Vienna's fame as a Metropolis of Medical Science is known throughout the world. Hundreds of young doctors, especially from America, go to Vienna to complete their training.

During the 19th century the famous specialists Skoda and Oppolzer, anatomists Hyrtl and Rokitansky, and other pioneers of therapy gained an enviable reputation for the Vienna University; and today Vienna is the home of celebrated and learned practitioners of medical science and the educational and research institutes.

The Vienna university, which was founded by Duke Rudolf of Austria in 1365, is one of the oldest institutions of learning in the world.

Wealthy students of this university are required to contribute to a fund for the education of their less fortunate brothers. Additional contributions are made by professors and various charity funds.

Adolphus Krebs, in 1432, contributed sufficient means for the erection of a free home for needy students—"Rose Bursa." This was the signal for other "Bursas" to spring forth, and six made their appearance within the next century.

War and inflation caused the fund, which previously had amounted to about $1,200,000, to dwindle to a mere $20,000.

For the past 100 years, students have been forced to find private lodgings, since dormitories and community houses have gone out of existence. But still they come—from everywhere.

The Vienna laryngological-otological school is unrivaled. Modern psychotherapeutics, Freud's psycho-analysis, Steinach's monkey-gland rejuvenation, and Adler's individual psychology claim Vienna as their birthplace and principal greenhouse.

(It was in Vienna that it was first adduced that when you catch a cold it was probably because you disliked the wart on grandma's nose when you were four years old, that your chilblains are probably the result of frustrated sex desire for Jean Harlow, and that your inability to save money dates back to an inferiority complex caused by your cousin Jimmy's possession of a tricycle.)

The cystoscope, and blood-diagnostics, are products of the Vienna school. And perhaps the greatest fights (in the finest sense of that overworked word) of all history is being directed on and from this spot—the fights against tuberculosis and cancer.

Vienna is at present one of the healthiest capitals on the Continent, qualifying in practice as well as in theory.

* * *

Theaters

Viennese theaters other than the Opera House and the Theatre an der Wien include the Deutches Volk-Theatre and the Wiener Burger Theatre for musical comedies, the Stadt-Theatre and Kammer-Spiele for revues, the Burg Theatre and the Theatre in der Josefstadt for legitimate plays, and innumerable Kinos showing European and American motion pictures.

Vienna is perhaps the only spot on earth where you can make sure whether or not your next door neighbor—or your wife!—is sitting a couple of rows back of you at the theater. Here it is considered proper to rise from your seat, adjust your opera glasses, and carefully scan the audience at your leisure.

One thing to which we couldn't become reconciled during our brief stay was the Viennese practice of carrying a lunch to the theater. The Viennese take their salami sandwiches and hardboiled eggs along and peacefully munch while enjoying the entertainment. (The Burmese go them one better by bringing their beds.)

Beer is served at intervals by cruising waiters. Except for the absence of peanuts and pop, an American stomach might suspect that it was at a baseball game.

The people of Vienna are most adept at "shushing." If a husband should make too much noise in explaining the joke to his wife, a hearty "shush" passes 'round the room. You may wonder why they bother, since the process creates a greater commotion than the explanation. But it's custom.

* * *

Interesting Buildings

Now for a quick look at some of the more interesting buildings of Vienna. First, the Schonbrunn Palace built by Maria Theresa. This huge residence, which has 1441 rooms exclusive of the many kitchens, was the summer home of the Hapsburgs. Marie Antoniette spent her girlhood here. Napoleon took possession of it when he conquered Austria, and lived in it for a while. His only son, L'Aiglon, lived and died here. The last of the Hapsburg emperors, Karl I, announced his abdication here in 1918.

The palace grounds, now a public park, cover about 500 acres, and were landscaped by a Dutchman in a style a great deal French and a little bit German.

Hapsburg art treasures now are on display in the Kunsthistorisches Museum. From a strictly financial viewpoint, the most valuable object in the entire collection is a salt cellar fashioned by Cellini. On its wooden pedestal are mounted flawless golden figures representing the god of the sea and the goddest of the earth. There are (barely perceptible) receptacles for salt and pepper, but it is doubtful that it has ever been used as a salt shaker. Other golden figures in relief represent days and winds.

St. Stephen's Cathedral is one of the finest in all Europe. Its spire rises to a point 448 feet above the street level. Built piecemeal, like all cathedrals, it was begun in 1365 and completed in 1433.

The nave of St. Stephen's was built by the architects of Rudolf IV, as were the side aisles that are so lofty and dim. Together they required 87 years to complete. The whole structure is covered by a steep, complicated, wooden roof, one of the most interesting architecturally in the world.

Originally planned for the cathedral were twin spires. One was finished and still stands, but the other was abandoned after it had reached a height of 213 feet.

Another lofty old church is Maria am Gestade, whose great organ was played by Franz Shubert himself. The oldest church building in Vienna is St. Rupprecht's, but the oldest church foundation is that of St. Peter's, said to have been laid by Charlemagne.

There are five large railroad stations which Viennese guides deem worthy of inspection, Westbahnhof, Sudbahnhof, Ostbahnhof, Nordbahnhof, and Franz-Josefs-Bahnhof.

The Viennese branch of the wealthy Rothschild family has a palatial residence not far from the Sudbahnhof, where Europe's most noted figures—including Edward VIII of England—are entertained.

Of the hotels, Grand Hotel is about the largest, although it is not nearly so big as Grand Hotel in Paris nor any of the first-class New York or Chicago hotels.

Other Viennese hotels are the New Bristol, where most foreigners stay; the Old Bristol, comfortable in an old-fashioned way; the Imperial, once the town palace of a Duke of Wurttemburg; and the Sacher, which we chose.

In Vienna, as in Paris, many apartment buildings have a doorkeeper who bolts the door at 10 o'clock sharp. Anyone coming in after 10 has to pay the *"Hausmeister"* a toll—20 kreuzers will usually placate him. This also works on the way out.

* * *

The Prater

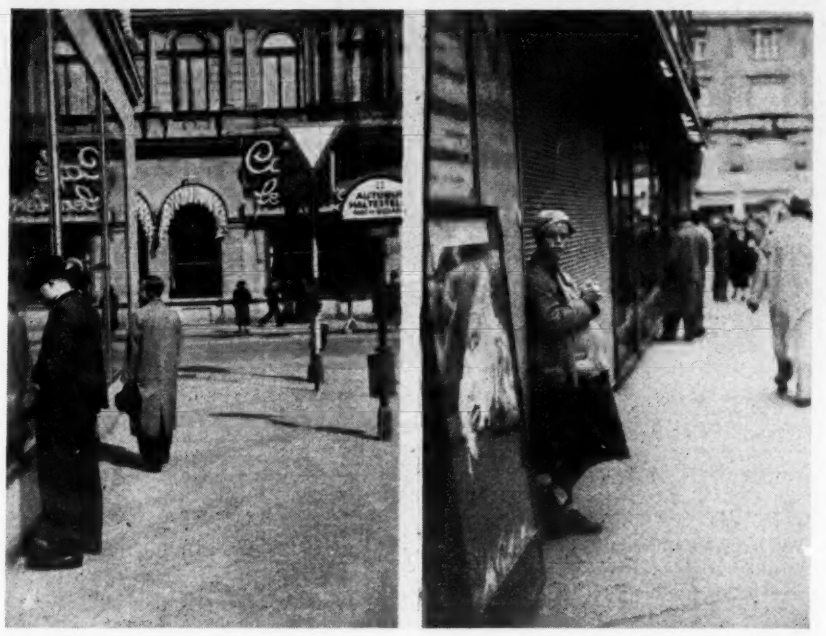
Vienna has the largest city park in Europe, the Prater. It contains miles of bridle path, winding lagoons for boating, an amusement park, a golf course, a polo field, playgrounds, extensive flower gardens, and many pathways for strollers. By night it is an undisturbed lover's haven.

The Prater lies between the Danube and the Danube Canal. In olden times it was a private deer park and forest belonging to the Hapsburg family, being opened to the public in 1766. There is an amusement park just inside the eastern entrance comparable to Coney Island in variety of entertainment. The park's outstanding feature, however, is the Hauptallee, a broad avenue along whose sides stretch double-rows of chestnut trees. It is closed to all automobiles.

The Lusthaus, now an excellent

(*Concluded on Page 11, Column 1*)

Window Displays Effective



1. Viennese citizens love to window-shop; and the merchants take pride in the artistic arrangements of their displays. 2. Pregnant beggar, in attitude of prayer. Mendicants are common, although begging is illegal.

Old and New Vienna

Old and New Vienna are symbolized in the picture on the left—New Vienna by the rakishly streamlined automobile, an Austrian make; Old Vienna by the quality of the sculpture and architectural design in the Franz Joseph Memorial. Right: Even when it's overcoat weather the Viennese like their Kaffee and Kuchen in the afternoon at these outdoor establishments. Many citizens "own" especially reserved tables.

Los Angeles Welcomes Peerless

Mayor Frank L. Shaw (seated) of Los Angeles is shown going over plans for the new Pacific Coast factory of Peerless Ice Machine Co., which is expected to go into production there in January. R. W. Kritzer (left), president of Peerless, journeyed to the coast to make final arrangements with Jack Cortines (right), manager of the new plant.

Sales of 78,065 Household Units Reported by Nema For November, 1936

The following 15 member companies of the Refrigeration Division of the National Electrical Manufacturers Association (Nema) reported household refrigerator sales for November, 1936: The Apex Electrical Mfg. Co., The Crosley Radio Corp., Fairbanks, Morse & Co., Frigidaire Corp., General Electric Co., Gibson Electric Refrigeration Co., Leonard Refrigerator Co., Kelvinator Corp., Norge Corp., Servel, Inc., (export only), Stewart-Warner Corp., Sunbeam Electric Co., Uniflow Mfg. Co., Universal Cooler Corp., Westinghouse Electric & Mfg. Co.

The sales of the reporting companies do, however, include units manufactured for the following concerns: Major Appliance Corp., Montgomery Ward & Co., Potter Refrigerator Corp., and Sears Roebuck & Co.

Lacquer (Exterior) Cabinets Complete	SALES FOR NOVEMBER, 1936 Domestic Quantity	Domestic Value	Canadian Quantity	Canadian Value	Other Foreign Quantity	Other Foreign Value
1. Chest	287	$ 13,476	8	$ 389	315	$ 16,214
2. Less than 3 cu. ft.	143	7,910	.....	.....	.....	.....
3. 3 to 3.99 cu. ft.	1,272	73,687	16	888	551	30,316
4. 4 to 4.99 cu. ft.	7,468	492,834	173	11,649	2,042	138,670
5. 5 to 5.99 cu. ft.	19,449	1,467,612	127	9,856	804	65,054
6. 6 to 6.99 cu. ft.	22,247	1,867,270	62	4,878	1,582	71,828
7. 7 to 7.99 cu. ft.	5,900	598,720	88	9,614	187	20,021
8. 8 to 9.99 cu. ft.	577	66,404	2	208	29	3,753
9. 10 to 12.99 cu. ft.	.....	.....	.....	.....	.....	.....
10. 13 cu. ft. and up	.....	.....	.....	.....	.....	.....
11. Total Lacquer	**57,343**	**4,587,913**	**476**	**37,482**	**5,510**	**345,856**
Porcelain (Exterior) Cabinets Complete						
12. Up to 4.99 cu. ft.	341	25,512	5	393	44	3,503
13. 5 to 5.99 cu. ft.	4,247	363,660	11	954	141	12,295
14. 6 to 6.99 cu. ft.	5,115	497,197	9	865	60	5,720
15. 7 to 7.99 cu. ft.	2,769	306,774	4	438	53	6,163
16. 8 to 9.99 cu. ft.	1,086	136,711	3	357	29	4,033
17. 10 to 12.99 cu. ft.	194	33,724	.....	.....	56	8,712
18. 13 cu. ft. and up	80	19,103	1	235	28	6,476
19. Total Porcelain	**13,832**	**1,382,681**	**33**	**3,242**	**411**	**46,902**
20. Total—Lines 11 and 19	**71,175**	**5,970,594**	**509**	**40,724**	**5,921**	**392,758**
21. Separate Systems ¼ Hp. or Less	100*	9,777*	8	304	267	14,583
22. Separate Household Evaporators	146	2,550	.....	.....	139	2,316
23. Total—Lines 20, 21, 22	**71,221**	.....	**517**	.....	**6,327**	.....
24. Condensing Units ¼ Hp. or Less	322	18,606	8	486	374	21,949
25. Cabinets—No Systems	344	14,091	.....	.....	35	2,175
26. Total Household	.....	**$5,996,064**	.....	**$41,514**	.....	**$433,781**

*Includes sales and credits reported by more than one company.

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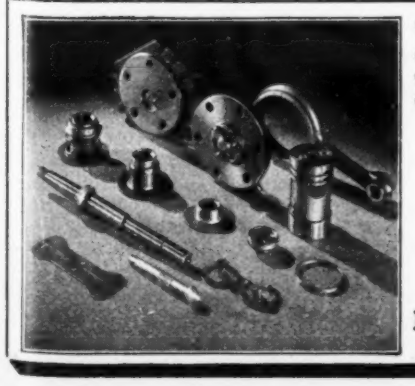
Westinghouse Declares $2 Dividend

PITTSBURGH—Westinghouse Electric & Mfg. Co. has declared a dividend of $2 per share on preferred and common stocks, payable Dec. 21 to stockholders of record Dec. 7, according to an announcement made by A. W. Robertson, chairman of the company's board of directors.

In the two previous quarters, Westinghouse paid $1 per share on common stock, while on May 29 and Feb. 29 of this year, dividends of 75 cents were paid. Eighty-seven and one-half cents was paid on preferred stock during the four previous quarters.

On Nov. 25, Mr. Robertson announced a bonus to Westinghouse employes of $5 plus $1 for each year of service. This was in addition to the regular monthly bonus which, for November, was 10%. Approximately 40,000 employes will share the award.



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World Sales of Commercial Equipment by Nema Members Total 9,010 Units in November

The following report of commercial refrigerating and air-conditioning equipment sales for November, 1936, were made to the Commercial Refrigeration Section of the Refrigeration Division of the National Electrical Manufacturers Association (Nema) by the following 15 companies:

Brunner Manufacturing Co., Carrier Engineering Corp., Crosley Radio Corp., Frigidaire Corp., General Electric Co., Gibson Electric Refrigeration Corp., Kelvinator Corp., Leonard Refrigerator Co., Merchant & Evans Co., Norge Corp., Servel, Inc., Uniflow Manufacturing Co., Universal Cooler Corp., Westinghouse Electric & Manufacturing Co., York Ice Machinery Corp.

	SALES FOR NOVEMBER, 1936 Domestic Quantity	Domestic Value	Canadian Quantity	Canadian Value	Other Foreign Quantity	Other Foreign Value	Total World Quantity	Total World Value
1. Bottle Water Coolers—Complete	43	$ 3,826	1	$ 78	49	$ 4,422	93	$ 8,326
2. Pressure Water Coolers—Complete	425	49,820	2	239	79	9,002	506	59,061
3. Water Coolers—Low Side Only	51	2,293	1	60	10	533	62	2,886
4. Ice Cream Cabinets—Complete	245	37,122	...	.....	179	18,457	424	55,579
5. Ice Cream Holding Cab. Only (Remote)	136	17,519	2	188	4	644	142	18,351
6. Bottled Beverage Coolers—Complete	380	28,447	2	160	23	1,656	405	30,263
7. Milk Cooling Cabinets (No High Sides)	34	3,350	...	.....	9	393	43	3,743
8. Air Conditioners—Self-Contained	47*	12,754*	...	.....	46	10,974	1*	1,780*
9. Air Conditioners—Floor Type (No High Sides)	112	49,487	...	.....	10	4,160	122	53,647
10. Air Conditioners—Ceiling (Cooling Only—No High Sides)	57	7,425	1	257	28	2,838	86	10,520
11. Air Conditioners—Ceiling Type (Equipped for Heating—No High Sides)	21	16,877	...	.....	6	3,840	37	20,717
12. Air Conditioners—Residential Type (No High Sides, Boilers, or Furnaces)	1	48	...	.....	...	.....	1	48
13. Condensing Units Less Than ½ Hp.	831	37,513	18	1,263	969	60,838	1,818	99,614
14. Condensing Units—½ Hp.	1,013	69,930	17	1,546	1,396	112,074	2,426	183,550
15. Condensing Units—½ Hp.	983	90,131	13	1,419	434	48,375	1,430	139,925
16. Condensing Units—¾ Hp.	771	93,973	7	963	69	9,361	847	104,297
17. Condensing Units—1 Hp.	374	56,166	3	505	78	13,129	455	69,800
18. Condensing Units—1½ Hp.	176	33,115	...	.....	34	6,655	210	39,770
19. Condensing Units—2 Hp.	85	18,827	...	.....	30	7,337	115	26,164
20. Condensing Units—3 Hp.	80	22,265	...	.....	32	7,499	112	29,764
21. Condensing Units—5 Hp.	27	12,347	...	.....	7	3,285	34	15,632
22. Condensing Units—7½ Hp.	19	11,648	...	.....	3	1,817	22	13,465
23. Condensing Units—10 Hp.	25	18,807	...	.....	4	2,680	29	21,487
24. Condensing Units—15 Hp.	40	33,760	...	.....	6	4,347	46	38,107
25. Condensing Units—20 Hp.	24	26,841	...	.....	...	.....	24	26,841
26. Condensing Units—25 Hp.	15	18,013	...	.....	...	.....	15	18,013
27. Total Lines 13 to 26 Inclusive	**4,463**	.....	**58**	.....	**3,062**	.....	**7,583**	.....
28. Total Lines 1, 2, 4, 6, 8, and 27	**5,509**	.....	**63**	.....	**3,438**	.....	**9,010**	.....
29. Commercial Evaporators (Not Reported Above)	2,382	63,917	95	2,487	957	27,482	3,434	93,886
30. Air-Conditioning Evaporators (Not Reported Above)	195	23,630	...	.....	3	2,100	198	25,730
31. Total Commercial & Air Conditioning	...	**$834,343**	...	**$9,165**	...	**$363,898**	...	**$1,207,406**

*Includes sales and credits reported by more than one company.

Market Research for Edison G-E Headed By Rebensburg

CHICAGO — Adolph Rebensburg, formerly with the commercial research division of General Electric Co. in Bridgeport, Conn., was appointed head of the market research division of Edison General Electric Appliance Co. here, announces R. W. Turnbull, vice president and general sales manager.

Born and educated in Germany, where he holds an economics degree, Mr. Rebensburg came to America in 1928. He has held positions with Percival White, Inc., marketing counselors, with the firm of Taylor, Rogers & Bliss, market counselors in the building field, and with Erwin-Wasey & Co., advertising agency. He joined the General Electric organization in 1932.

Vacuum Cleaner Sales Total 142,580 in Oct.

CLEVELAND — October sales of vacuum cleaners totaled 142,580 units —109,636 floor cleaners, and 32,944 hand cleaners, according to E. Murray of the secretary's office of the Vacuum Cleaners Manufacturers Association.

G-E Declares Extra Dividend at Quarter

SCHENECTADY—The board of directors of General Electric Co. has declared a quarterly dividend of 25 cents per share for the fourth quarter of 1936, plus an extra dividend of 50 cents per share, which was payable Dec. 21 to stockholders of record Nov. 27.

President Gerard Swope has also announced that the estimated amount available under the company's general profit sharing plan for the last six months of the year is approximately 6% of the earnings of participating employes.

Kelvinator Expands Home Laundry Production

DETROIT—Surprisingly large estimates on expected sales volume for the new Kelvinator washing machine already have been received from approximately 75% of Kelvinator distributors, and 1937 production plans have been expanded, according to V. J. McIntyre, sales manager of Kelvinator's laundry equipment division.

Mr. McIntyre stated that machinery in the new plant at Alliance, Ohio, is practically completed, and production will start on schedule.

Air Conditioning

Now—when you are thinking about Air Conditioning for next summer—and the profits that come from increased sales, efficiency, and production as the result of customer comfort and better working conditions

Remember—Century Motors add these essentials to any Air Conditioning installation:

They start quietly—run quietly—are remarkably free from vibration.

These features are Century's distinct contribution to QUIET Air Conditioning.

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1806 Pine Street St. Louis, Mo.
Offices and Stock Points in Principal Cities

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AIR CONDITIONING AND REFRIGERATION NEWS

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Small Appliances In Spotlight

BIGGEST NEWS of the month in New York City, which is always a hotbed of activity and excitement in the electric appliance industry, is the New York Edison company's "bargain packages."

Designed primarily to promote business among small users of current (New York Edison statisticians figure that almost 350,000 "minimum bill customers" are maintained on the company books at a loss), the "bargain package" program does everything but give the purchaser a new Ford V-8 and a deed to the Kaatskills generating station.

In the words of E. F. Jeffe, vice president in charge of sales of New York Edison (he was promoted to that position from an assistantship after promulgating this plan), "Our entry into this plan is not based on guesswork. We conclusively know from the experience of others that there is a real field for the sale of electrical appliances in the minimum bill customer field, if it is intelligently approached.

"Our survey shows that the plan should bring fruitful results to dealers as well as to ourselves. Neither manufacturers nor distributors registered unfavorable reactions when approached with the plan."

What's in the Packages

Here's how it works:

Bargain package No. 1 consists of a Hotpoint iron, a Westinghouse toaster, and a Greist I.E.S. lamp, which list for $16.17, including the tax. During the campaign the New York Edison Co. will offer these three appliances for $9, including the 2% sales tax, payable at the rate of 75 cents a month for 12 months.

Cost to the retailer of this package of three appliances is in the neighborhood of $7.70, which should give him a gross profit of $1.30. Should the order for this deal be taken by an employe of the utility, that employe receives 30 cents, and the dealer $1.00.

Bargain package No. 2 consists of the same three appliances which comprise the first assortment, plus an Emerson radio. List price of these four items, including the sales tax, is $36.52, according to New York Edison figures. For the duration of the campaign, bargain package No. 2 is being offered for $18, including the sales tax, payable at the rate of $1.50 a month for 12 months.

New York Edison officials estimate that the retailer makes $1.82 on this deal. Should the order be taken by an employe of the utility that employe receives 50 cents, and the dealer in that territory (or precinct) is paid $1.32 by the utility.

Profits Cut as Well as Prices

Mr. Jeffe and his cohorts singled out 265 "approved" dealers who are to share in the materialization of this plan. All financing—a year to pay and no finance charges (and no foolin' about that)—is undertaken by the utility. To balance against the financing advantages and the cut-price lure (about 50% reduction), the cooperating dealers must stand about a 65% reduction in profit per item.

The 265 dealers, it is said, aren't so sure whether they have been done a favor or not.

As for the appliance retailers who aren't in on the deal—they're almost in a panic. Chief complainants are the New York Retail Dry Goods Association and the Eastern Electrical Wholesalers Association. The latter, in a bill of complaint lodged with the Public Service Commission "on behalf of 150 retail dealers and about 50 wholesalers in radio and electrical appliances," declares:

"In its attempted discrimination, the Edison Co. arbitrarily and capriciously refuses to recognize retail dealers qualified by every standard over and above those whom it has approved.

"In furtherance of this plan, the Consolidated Edison Co. is using its finances, its facilities, its warehouses, and its employes whose services and salaries are deducted from the net profit of the business to increase and promote these sales, out of which profits it pays enormous sums for advertising to promote the sale of these appliances, discriminating in favor of same and against the vast majority of manufacturers, wholesalers, and dealers."

Retailers Organize to Fight

Large New York City retailers, such as furniture and department stores, are contributing toward a "defense fund," it is reported. This fund will be used to start several suits. Among those proposed are a stockholder's suit against the New York Edison Co. for alleged "wasting of company's funds," a federal court suit against the utility for violation of the Sherman and Clayton anti-trust laws, and a complaint to be filed with the Federal Trade Commission charging price discrimination and violation of the Robinson-Patman Act.

As usual, it's the cut-price advertising which has New York retailers in such a furore. According to scattered reports given the editor of the NEWS in Manhattan several days ago, Christmas sales of small appliances by retailers not included in the select 265 are well up over last year. In other words, they haven't been badly hurt—just scared. On the other hand, some complaining members of the 265—who feared that they were being forced to work on too small margins—are finding their volume so stepped up that their profit on small appliances was considerably increased in December, 1936, over December, 1935.

Complete figures on the campaign, however, have not yet been tabulated, and these individual reports may not be indicative of the general situation.

One factor which almost everybody—including the New York Edison Co., which is on the defense—has overlooked in the situation is that small appliances can be used to promote the sale of refrigerators, ranges, and washers, on which the dealer can register a *real* profit.

Instead of howling to high heaven, the courts of law, and the Federal Trade Commission because a utility knocks 48 cents (or thereabouts) off the profit on an electric toaster, perhaps indignant Manhattan dealers might find it more profitable to stay in their shops and divert the attention of bargain package hunters to the refrigerator display. An electric refrigerator offers a minimum-bill customer (a relatively high percentage of which do not have adequate refrigeration) a genuine opportunity to save money, as well as affording the dealer a genuine opportunity to make a profit.

Merchandising Principle

Both the publisher and the editor of AIR CONDITIONING AND REFRIGERATION NEWS—at widely separated intervals—learned their first lessons in merchandising in a drug store located in a small Midwestern town. For decades this store has been selling 12-ounce Coca Colas for five cents. Standard practice is to offer a 5-to-7 ounce Coca Cola for five cents. Other drug stores in the locality have voiced their indignation over this policy for years—and for years these complaining competitors have watched customers troupe into the "drug store where they serve the big drinks," and make their other purchases there, too. By cutting the profit a fraction of a cent on a popular five-cent item, this store does a bigger business on long-margin items like wall paper, paints, and hog medicine.

This homely anecdote illustrates a definite merchandising principle, one which has been utilized by not a few electric appliance dealers in scattered sections of the country. A dramatic cut-price offering of small appliances, dealers may find, can turn out to be a comparatively cheap means of promoting the sale of larger appliances with real profit possibilities.

Letters

He Wants to Take an Ice Rink on the Road

540 North Michigan Ave.
Suite 523
Chicago, Ill.

Editor:

I would like to purchase a portable ice rink and am wondering if you could advise me who might make one for me.

I do not think there are any on the market, but if you could suggest a firm that might be able to make one for me it would be very helpful.

This rink is to be used on a traveling carnival—something never before tried. WILLIAM BOLLIVAR

Opportunity in Belgium

Frigobelge
Kompressoren
Electrocold
Boomgaardstraat, 188, Antwerp

Dear Sirs:

We beg you to advise us about the possibility to give us information re firms producing cooling units and evaporators, wanting export to Belgium or Europe in general.

We have been busy hitherto in refrigerating and have up till now well succeeded with a German compressor.

The facts are now that the general want of the clients here goes for American built machines and this incites us to try to obtain the representation of one of the numerous American compressors.

W. J. COHNEN (Ing.)

He Files 'Em

Refrigeration Service
c/o Purity Ice Cream Co.
Clarksville, Tenn.
Dec. 14, 1936.

Gentlemen:

Please put my name on your Catalog mailing service list.

I have been a reader of your paper since 1926, and I file every copy. I consider this paper a wealth of information that is hard to equal. If every one that is connected with electric refrigeration in any capacity would read and study your paper I am sure they would greatly benefit for the time spent in the effort.

MATT KIRK.

The News Goes to Prison

State of New York
Department of Correction
Sing Sing Prison
Ossining, N. Y.
Dec. 18, 1936.

Gentlemen:

It is with gratitude that I acknowledge the receipt of the box of back issues of the AIR CONDITIONING AND REFRIGERATION NEWS. They shall be utilized to excellent advantage by the students in the refrigeration classes.

If you find it convenient, from time to time, to send us copies of back or current issues, we should be pleased to accept them on a transportation basis (collect).

Your interest is indeed heartening.

LEWIS E. LAWES, Warden
by JAMES DAWSON, Librarian.

South Africa Neglected?

H. R. Hendy
Dominion House
78, Anderson St.
Johannesburg, South Africa
Representing: Melchior, Armstrong, Dessau Co. Inc., Russ Soda Fountain Co., The Virginia Smelting Co., W. P. Fuller & Co., Gifillan Bros., Pacific Hard Rubber Co., Super-Cold Corp., United Battery Co., U.S. Spring and Bumper Co.

Editor:

As South Africa is the largest importer of refrigeration plants and equipment from United States, you have paid very little attention to giving any information to manufacturers of South African conditions or business. You do not even include it in your itinerary of your "Round the world trip."

The writer has been a subscriber to your NEWS for the last 10 years, eight of which were when I was Sales Manager for the Kelvinator distributor for in Los Angeles. This criticism on your apparent neglect of South Africa is purely friendly, but I sincerely believe that in your news you should give more interesting data about this market, from which so many manufacturers receive substantial orders.

As you will see, I represent many well-known United States firms on refrigeration appliances, and there are many others not listed on this letterhead, such as the Universal Cooler Corp., Kason Hardware Corp., Messrs. O'Keefe & Merritt Mfg. Co., etc.etc., and also firms such as the Detroit Lubricator Co., The Kerotest Mfg. Co., Henry Valve Co., Anheuser-Busch, Inc., Fedders Mfg. Co., Merchant and Evans Co., etc.etc., which firms I represent through Messrs. Melchior, Armstrong & Dessau, Inc., N. Y.

It must be remembered that it takes at least two months to get reply to any communications to this country, and it might be well in the future, should you require any information for certain editions of your NEWS, that this be borne in mind.

Needless to say I have read the REFRIGERATION NEWS every week with a great deal of interest for the last 10 years, and I look forward to it just as keenly as I did at the beginning. In fact I believe I was almost one of your original subscribers.

H. R. HENDY

P. O. Box 4132
Johannesburg, South Africa
Nov. 24, 1936.

Editor:

I have enjoyed reading your "World Tour" but must express my surprise that you did not visit South Africa, especially considering this country at present leads the American export market. ERIC SMITH.

Union Technical Agencies
Engineering and Automotive Factory Representatives
P. O. Box 2054, Durban, Natal
Nov. 18, 1936.

Editor:

We certainly followed your "Around the World" series with the greatest of interest.

Why you could not have included America's best foreign market in your trip is still a mystery to us and many of our friends, because we do feel that as South Africa is unquestionably not only in refrigeration, but in most other things, America's best market at this time, the Business News could surely have spared you for another six to eight weeks so that you could have covered this market.

In addition to refrigeration, we handle the very popular and fine quality "American-Bosch" range of radio receivers in the Union of South Africa, South Bend lathes, and a number of nationally known American automotive products.

We certainly find the NEWS most interesting and helpful, and it is always kept on file for reference.

UNION TECHNICAL AGENCIES.

Coolers on the Farm

W. F. Arendale
Murfreesboro, Tenn.

Gentlemen:

Please have manufacturers send information on milk-cooling equipment. T.V.A. is putting in Rural Electrification and this is a dairy country and should be a good market for milk coolers. W. F. ARENDALE.

Commercial Sales in Australia Are Improving

Gordon Bros. Pty. Ltd.
Refrigerating Engineers
Union St., Brunswick, N.10
Melbourne, Australia
Dec. 1, 1936.

Mr. George F. Taubeneck:

I have been following with great interest your tour as published in the NEWS.

We are at present in the middle of the refrigeration season and so far it is a little better than last season despite not having had any hot weather, yet, in Victoria.

Our turnover to date has been about 200 units, all commercial, principally the combination ice block makers with ice cream and bottle storage, which you no doubt remember. Next to these, hotel equipment and butcher's boxes are the main sources of our business, a few ammonia installations and larger size electric jobs using methyl, make up the total. We are operating a branch sales office in Sydney which is getting a good footing in that state.

Conditions in Australia generally, are definitely improving mainly due, I think, to better prices prevailing for wool and wheat.

You are probably aware of the tariff restrictions on American manufactured refrigerators and parts imposed by the Australian government. As we have in the past been using American controls and cabinet hardware the import on these goods has made things a little awkward; however, our friends Messrs. F. C. Lovelock seem to be bridging the gap with English "Teddington" equipment, which is quite good. We had intended importing a line of domestic refrigerators from U. S. A. but the altered conditions settled that.

We would be interested in a good Canadian job if that comes into your sphere of things. I expect one of my brothers to be visiting your country early next year and he will no doubt pay you a courtesy call.

Wishing you the Season's Compliments. ERNEST R. GORDON.

Australian Restrictions On Imports Cause Chaos

R. Werner & Co. Pty. Ltd.
54-86 Burnley St., Richmond E1
Australia
Nov. 17, 1936.

Mr. G. F. Taubeneck:

Very pleased to hear from you, and to know that you got home safely from your trip. We have followed your "Round the World" with interest, and very much appreciated your most interesting comments on the places you visited.

At the moment, of course, government restrictions on the importation of American refrigerators amounts to total prohibition, not only on refrigerators themselves, but also on controls of any type, and the resultant chaos here can be well imagined, as we have all had to switch over, unless lucky enough to have large stocks, on to English controls.

Our season here for sales, started quite promisingly in commercial units, but owing to the vagaries of our weather, is at the moment rather doubtful, and we are all strenuously hoping for the sun to get busy and help us close some of our prospects. Over here hotels are a big field which should be well started this year, and display cases are showing a hopeful outlook for an increase.

From the American point of view, at the moment, we should say that Australia would be very unpopular, but we hope that this state of affairs will not continue indefinitely.

F. R. SLESSAR, Manager.

Subscriber Gets Restless Feet

4 Porter Ave.
Newark, N. J.

Editor:

Kindly discontinue my subscription as I have retired from business and expect to do some traveling.

Your publication has not only been interesting, but helpful as well: so much so, that I have filed away for reference the first, and all subsequent issues.

Wishing you continued success, I remain, HARRY W. KELLER

P. S. Will now be considered "a has been."

Cameras in Venice

McCall Corp.
230 Park Ave., New York, N. Y.
Dec. 17, 1936.

Editor:

I enjoyed especially some of your shots of Venetian life in your Dec. 9 issue. I have only one picture of Venice that anywhere approaches the shots you got—I was successful in taking a home movie sequence of the bell tower on St. Mark's Square.

ARTHUR HIROSE,
Director of Research.

Vienna's Parks & Sport Facilities Among Best

(*Concluded from Page 8, Column 5*)

restaurant on the Hauptallee, was built as a pavilion in Maria Theresa's time.

One noticeable characteristic of the Prater is that it has not been planned, but derives its beauty from Nature's profligate disorder.

Austrians are devotees of the great outdoors, and go in strongly for tennis, skating, hiking, tobogganing, etc. Such games as cricket, baseball and golf are not so popular, but association football, or soccer, is a great favorite. Hunting and fishing attract a great many followers.

On a fine summer Sunday, hundreds of thousands of Viennese flock to the bathing beaches on the Danube. The Gansehaufl beach, which is within the police area of Vienna, is chiefly for family outings.

The youth and would-be youthful element of the population prefer to go to Klosterneuberg and Kritzendorf, which are beyond the police-controlled area, and more especially to Greifenstein, which is 'way out in the country, and where dressing rooms are just behind the thickest bushes.

Baden, the world-renowned health-bath resort (not to be confused with its German rival, which is called Baden-Baden in compliance with the fad that recognizes Walla-Walla, Boola-Boola, Bali-Bali, Knock-Knock, and Simone Simon) is not far from Vienna.

* * *

Horseracing

First Sunday in June is Derby Day in Austria. As a fashion parade it closely rivals the Ascot of England, and for enthusiasm and merry-making it can prick up its ears with the Kentucky Derby.

Officially known as the Grand Prize of the Austrian Jockey Club, the race is a trial run for three-year-olds.

One of the oldest and finest of race-courses is the Freudenau in the Prater. Here are run the classic races of Austria, including the Derby and the Grosser Modepreis.

Viennese are avid race fans, and races proceed far into the night under electric lights. Trotting events draw big crowds, too, as do polo games.

For the typical Austrian the greatest of all outdoor sports is walking. He can walk for miles and miles without feeling much fatigue, for the motor car has not atrophied his muscles. To him, a 15-mile jaunt is nothing at all.

Skiing is almost equally popular. One of Europe's most popular winter resorts at the present time is Kitzbuhel on the road from Innsbruck to Salzburg. In this locality, and in many others like it all over the country, the Austrians are betrothed to skis almost from birth. Italians say that the Austrian's ambition is to die with his skis on.

About 50 miles from Vienna is Semmering, a mountain pass which is the week-end resort of the city dwellers both in winter and in summer. The surroundings are majestic and stately at any time of the year. Salzburg's music festivals have made of that town an important center in Austrian cultural life.

There is in Vienna a huge stadium holding some 60,000 people, and here are played the major football (soccer) games of the country's large system of teams and leagues. There are also held here bicycle races and swimming meets.

Lawn tennis is played on the innumerable public courts, and there are many golf courses in and around the city. With some brilliant youngsters coming up, Austria is considered a potential Davis Cup threat. The Austrians have excelled and specialized in aquatics, having at their disposal not only the beaches along the Danube, but many public pools as well.

Shooting has become more popular of late, and the open country of Lower Austria provides a good game area.

* * *

Night Life in Vienna

Now for the night life of Vienna. You may be disappointed in it, especially after Paris, but you must remember that since the war Vienna has been comparatively poor, and that the Viennese cannot afford to toss away money the way they used to do.

As matter of fact, however, Viennese night life is reviving, because of the increasing deflection of the tourist trade from Paris to Vienna.

The theaters tops on the Continent. Posters advertising plays, operas, concerts, and musical comedies tell about everything but the price.

This omission is made so that prospective customers will not be scared away. Prices are arranged in accordance with the drawing power of the star of the evening's performance.

The well-known "Jeritza prices" are an example. When the Viennese favorite, Maria Jeritza, is to honor a theater with her presence, the prices go sky high, the customers go sky high with indignation, and the ticket sales usually go sky high notwithstanding (in fact, "with standing").

To single out a few of the theaters:

There is the Burg Theater, once the private hall of the Hapsburg rulers, and now a state theater. The first-nighter crowds here are made up of the cream of Viennese society, bedecked in their finest array. Both performance and audience invariably are very sedate and dignified, in deference to the theater's past history.

Over a hundred years ago the Theater in der Josefstadt was inaugurated, and for the occasion Beethoven composed a special overture. Today, it is the palace where Max Reinhardt's company plays, and is *the* theater for students of drama.

The Deutches Volks-Theater has adopted the policy of engaging foreign artists, particularly from Berlin, to present reportoire performances. A curious thing about the Deutches Volks-Theater is that the audience very often is undemonstrative and "sits on its hands."

It may be an expression of the Austrians' sub-concious feeling of enmity toward the Germans. Many Austrians still consider themselves to belong to the true German race, and the so-called Germans are, to them, Prussians.

The light operas of Lehar, Kalman, Fall, and Oscar Straus play for long runs at the Theater an der Wien, which dates back to the middle of the 18th century.

"Artistic nudity" a la Folies Bergere and Minsky, is presented in the Stadt Theater in the Skodgasse, where solemn revues are staged in the altogether.

Operas are presented every night of the season, and famous singers from the world's aria marts are engaged.

In the Vienna Opera House is the well-known "fourth gallery," the counterparts of which are sometimes referred to in America as "the gods" and "nigger heaven." Here crowd the real opera enthusiasts, upon whose appreciation or disapproval hinges the success or failure of the singers. And they gain admission for less than American movie-goers pay to see celluloid romance.

Where do the Viennese go after the theater? Mostly to the innumerable coffee-houses, where they endlessly discuss the performance just attended. Many, however, would go to the Pavillon or the Tabarin, Vienna's largest night clubs.

Viennese night life is presented at its best at the Pavillon. The room is the usual place—tables scattered around, a little clearing for dancing, an orchestra (or jazz-band, to be more nearly correct) and the usual crowd of sophisticates.

Adjoining the main room of the Pavillon is the American Bar, where a squadron of young girls, in the employ of the management, see to it that solitary patrons are kept in the best of spirits, both mental and liquid.

I have no personal data on the subject, but was told that these *fraulein* are charming, intelligent, well-bred young ladies who take pride in their ability to be excellent hostesses. As a rule, any untoward action or speech on the part of a patron is promptly met with a cold, biting rebuttal, a complaint to the manager, and either the aversion or eviction of the offender.

At the Tabarin, considered the "swankiest" place to go, two bands play alternately for the dancers, who are extraordinarily numerous.

If a lady goes to either the Tabarin or the Pavillon unescorted or with her husband, which usually amounts to the same thing, she can hire a dancing partner for the evening. Top-notch dancing partners, though, can be hired only at their own terms.

Similar to the American Bar of the Pavillon is the Chapeau Rouge which adjoins the main room of the Tabarin. Here, too, are a number of chubby hostesses.

Other night clubs (there are scads of them) include the Femina and the Cafe Capua, and the Reisbar, gathering place of the old Vienna Bohemians who love community singing. In one club, I was proudly informed, Marlene Dietrich once served as a barmaid, graduating to hostess and specialty entertainer status before going into the theater.

On the outer edges of the city, and beyond the limits, are the Heurigern, little places, usually rooms in private homes, where fresh, homemade wine is served. The wine is made from the grapes grown in the small vineyards behind or near the Heurigern.

One of the finest restaurants in the city is located high on an overlooking hill. I was taken there for dinner, and the food was as satisfactory as the view and the music.

Two o'clock in the morning is closing time for most places; a number remain open until three, and a few don't close their doors until four. Four o'clock is the absolute deadline for respectability.

There are speakeasy-type cafes that remain open after that hour, dingy rooms up dark streets and through back doors, where the liquor is rotten, the "pianosaxdrum" a raucous grind, and the women unattractive and unprincipled. Such is true of almost any metropolis in the world.

Strict police regulation and patroling keeps the number of such places down to a low minimum, but they cannot be completely obliterated. Policing also checks the "demi-mode." Street-walkers are restricted to a few of the darker corners, and "woman's oldest profession" has lost much of its prominence and notoriety in Vienna.

* * *

Religion and Education

The majority of the Austrians (in fact, 95% of them!) are Roman Catholics. Jews comprise three per cent, and the other two per cent of the population are Protestants, with a smattering of Mohammedans.

As a Christian Federal State, Austria is bound to the Vatican in Rome by a concordat. Religious toleration, however, is enforceable by law, and non-Catholics are granted freedom in their form of worship.

School attendance in Austria is free and compulsory for children between the ages of six and 14. The present tendency, like that in Italy and Germany, is to proselyte school school children for the juvenile ranks of the army, in which they are given drill and exercise and, in addition, a liberal dose of government propaganda so as to make militantly patriotic citizens of them. To these three countries, the manual of arms is more important than the alphabet or the multiplication table.

In addition to the public schools, there are a number of state boarding schools established for the benefit of superior scholars whose families are of comparatively low financial standing.

* * *

Social Conditions

As a rule, married women are not welcome in Austrian industry. For every married women working there is a man unemployed, Austrians believe. Woman's place, they say, is definitely in the home, if she has a home.

The farmer's wife, however, is expected to pitch in and help with the plowing, planting, hoeing, weeding and harvesting, besides doing the housework, looking after the kids, preparing meals, and feeding the stock.

Austria is not emulating Italy and Germany in the matter of raising larger families; there is no doctrine of "the ever-full cradle." This really is surprising, considering that the two dictatorships and the Catholic church—the three great influences on Austrian conduct—frown on birth control.

Social legislation enacted by the government provides for sickness and accident insurance, state aid for mothers and babies, prohibition of night work for women, children, and bakers, and an eight-hour maximum working day.

* * *

Private Armies

On Oct. 10, 1936, Chancellor Kurt Schuschnigg abolished all private military and semi-military organizations in Austria, and decreed that from that day on the only military force outside the regular army would be the new national militia under the direct control of the Ministry of National Defense.

That was the official end of an institution which most Americans find difficult to fathom—the Austrian private army.

Soon after the end of the World War, private armies made their appearance in Austria. They were recruited by men of means from ex-soldiers who, having no work and being in possession of rifles used in the World War, enlisted in order to make a living. There were also many young unemployed men in the towns, in villages, and in Vienna, who became members of the private armies.

Eventually there were quite a number of these organizations, the strongest of which was the Heimwehr, or Military Home Guard, created and led by Prince Ernst Rudiger von Starhemberg. In its later years the Heimwehr was supported by Italian money.

Others were the Schutzbund (army of the Socialists), the Freiheitsbund (army of the Freedom League), the Catholic Storm Troops, the Nazi Brown Shirts, and the Austrian Storm Troops, whose special patron was Schuschnigg.

Schuschnigg's army was supported by public funds; the others by contributors to *real* party "war chests." In Austria, you don't buy votes; you hire soldiers.

There were critical times when these organizations shook fists menacingly at one another, but no real battles were waged between them.

TEMPRITE

wishes you

a Happy New Year

and offers the Temprite Cooler, beer or water, as a sure means of making it prosperous.

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1349 EAST MILWAUKEE AVE., DETROIT, MICH.
ORIGINATORS OF INSTANTANEOUS LIQUID COOLING DEVICES

A TOAST that everybody in the industry recognizes as the slogan of Commonwealth Brass Corporation for the past twenty-four years is fitting for "Mr. Fitting" to use in saluting the New Year.

We give you

"Built Right to Stay Tight"

and of course we refer only to fittings. Here is one place where the quality of being tight is a distinct advantage. No employer will ever fire "Mr. Fitting" from the job because he is tight although anybody else might be treated differently.

Commonwealth Fittings are made so that they can "take it". Made of forged brass and extruded rod they are positively seepage proof. They never exude a drop, an admirable trait in fittings however much we may despise tightness in individuals.

There is a time when we all get tight (or so the song goes) but Mr. Commonwealth Fitting must be tight all the time or everybody is disappointed. He is one individual whose close application is always appreciated.

Seriously though, it is a pleasure for Commonwealth Brass Corporation to once again extend to its many customers, an expression of desire to be of service, in 1937 as in the past twenty-four years, in supplying fittings that are

"Built Right to Stay Tight"

Our tradition of service to the industry implies not only excellence in design and manufacture, but immense stocks of standard and semi-standard fittings, as well as the ability and willingness to produce special fittings in any desired quantity.

For the New Year consider Commonwealth as your preferred source of supply.

COMMONWEALTH
BRASS CORPORATION
Commonwealth and G. T. R. R. DETROIT

Air Conditioning

Air Conditioned Smoke House Is Novel Feature of Complete Conditioning System in New Packing Plant

MANCHESTER, N. H.—An air conditioned smoke house is one of the novel features of the complete system of air conditioning installed this past season by York Ice Machinery Corp. in the new packing plant of Foster Beef Co. here.

The new smoke house is provided with a forced draft circulating and heating system, with temperature and humidity control. Sawdust is burned to produce the smoke in a smoke pot outside the smoke house and is circulated by the air-conditioning system instead of the older practice of burning it on the floor of the smoke house.

Product of the air-conditioned smoke house, it is said, has a brighter, fresher color, and is in demand by large meat buyers such as chain stores. Another advantage is a reduction in smoking time, resulting in more economic use of the smoke house. Less shrinkage of the meat also results.

Foster Beef Co. has been in the meat business since 1914, having started in Boston in that year. The plant was moved to Manchester in 1920. In 1928 the company opened a branch plant in Claremont, N. H., to take care of business in the Connecticut Valley. At present time management of the business is in the hands of Jack Foster, assisted by his brothers, Maurice and Joseph.

Two Smoke Rooms Conditioned

Outstanding achievement in the new Foster plant, the air-conditioned smoke house is composed of two smoke rooms, one for heavy products and one for light. They are insulated with 4 inches of sheet cork coated with ½ inch cement plaster on each side. The meat is rolled into the smoke house on four-wheeled trucks instead of an overhead tramrail system. Doors of the smoke house are metal clad standard refrigerator doors.

Temperatures maintained in the two rooms can be adjusted from 100° to 200° F., the heating being done by means of Aerofin sections. The steam is automatically controlled to these heaters by means of a Powers combination recording and controlling instrument and Powers automatic steam valve and fresh air damper.

Air-distributing system consists of a system of duct work, distributing the air and smoke along the floor down the center and each long wall of the room. The smoke rooms are arranged for two rows of trucks; the smoke and air is distributed on each side and between them.

Return duct is located on the ceiling of the smoke rooms directly over each row of trucks so that the smoke and air passes through the products. This air and smoke then goes back to the fan, where it is forced through the heater again and additional smoke is introduced.

Complete Air Change Each Minute

Air circulation in the room is based on approximately one air change per minute, although it can vary with the type of product to be processed, from a minimum of ½ to two air changes per minute. The heating system is designed to take care of conditions when the outside temperature falls to —20° F.

Relative humidity in the rooms is controlled by admitting more or less fresh air to the unit. As lower relative humidity is required in the rooms, more fresh air is introduced to the fan. Because of the low moisture content of the fresh air, a correspondingly lower relative humidity is created in the smoke house.

This method may also be used in controlling smoke density. If 100% fresh air is used, a light smoke will be obtained, and if 100% recirculated air is used, a heavy smoke will be obtained. An exhaust connection with a pressure damper in the ceiling of the smoke house is provided for the escape of the air when more fresh air is introduced to the system.

Fan Arrangement

The fans, one for each of the two smoke houses, are of the non-overloading, or backward curved blade design, and are arranged for discharging the air to the heating coils and then into the duct system. Fan motors and belts are located outside the smoke houses.

Filters on the smoke inlets clean out condensible products in the smoke and tend to purify it. The finished product has a clean appearance, not darkened by impurities in the smoke. Interior of the smoke house remains clean with elimination of most of these pitch and tar products in the filters.

Employe Efficiency Up

Employe efficiency in the Foster Beef Co.'s plant has increased, for all smoking operations can be carried out on one floor, whereas two floors, with an operator on each floor, usually are required. Since the mixture of smoke and air is recirculated, the required smoke density can be maintained with a relatively small amount of total smoke admitted to the room as makeup, and consequently less smoke producing material is required.

The plant required refrigerating apparatus for the following list of cold storage rooms, with temperatures as indicated:

	Temperatures
Pickle cellar, 45'6" x 28' x 8'11"	38—40° F.
Storage cooler for beef, 62'6" x 28' x 10'8"	34—36° F.
Fresh pork cooler, 31' x 14' x10'8"	30—32° F.
Sausage packing cooler, 31' x 14' x 10'8"	45—48° F.
Boning and shipping cooler, 32'6" x 28' x 10'8"	45—50° F.
Sausage chill room, 28' x 16' x 10'7"	45—50° F.

In addition to the above rooms, all of which were to be completely air conditioned, there were two rooms in which it was decided to use the conventional type of coils. The rooms were:

	Temperatures
Freezer, 28' x 24'6" x 10'7"	10—12° F.
Butter, cheese, and egg cooler, 20' x 16' x 7'11"	34—36° F.

One of the problems in connection with the new plant was to utilize as much as possible the equipment from the Granite Street plant, in which a 6 by 6-in. York compressor was installed in 1926.

The condensers and some of the coils installed in some of the later rooms built were in good shape, and were utilized largely in the freezer and egg storage rooms. Because the freezer was to operate on a lower back pressure than the balance of the job, it was decided to install a 4 by 4-in. York compressor under automatic control to take care of this room alone. Both the old 6 by 6 and the new 4 by 4 were cross connected for emergency purposes; both utilized the common condensing system.

Vertical Dry Coils Used

The air-conditioning units in the pickle cellar, beef cooler, sausage packing cooler, boning and shipping cooler and the sausage chill room, are of the York vertical dry coil type. The unit in the pork storage cooler is a York vertical wet-coil type of unit. All of the dry coil units are equipped with sweet water defrosting devices.

Because freezing point temperatures are carried, the wet-coil unit is fitted with brine sprays to keep the coils free of frost at all times. Temperatures in all of the coolers are carefully selected, fan speeds, coil surface, and method of operation in each cooler being balanced to maintain the proper relative humidity.

A relative humidity of 82% to 85% is maintained in the beef storage cooler, the sausage cooler, and the boning and shipping cooler. A higher relative humidity is carried in the pickle cellar, due to the amount of moisture in this room and the number of open vats: walls and ceiling of the pickling room, however, are kept dry.

Chill Room Humidity Varies

In the sausage chill room, the relative humidity varies. The purpose of this room is to chill the sausage and other cooked meats as quickly as possible after they leave the water bath which follows smoking and cooking. After the products leave the chill room, they are placed in the sausage packing cooler.

In the beef storage cooler, the pork storage cooler, and the sausage packing cooler, the air is distributed by means of wooden ducts located on the ceiling of the rooms in order to keep the air velocity over the meat products as low as consistent with good cold storage practices.

Temperatures are maintained automatically in all of the cold storage rooms at the Foster plant. The operation is follows:

Fans are in continuous service. Each air-conditioning unit is equipped with a suction pressure regulator to maintain the proper evaporator temperature. Units in the pickle cellar, boning and shipping coolers, and sausage chill room, each are equipped with a solenoid liquid valve controlled by a thermostat, so that when the proper temperature is reached in the room, the refrigerant supply is shut off.

Bypass Dampers Used

The air-conditioning units in the sausage packing cooler, fresh pork cooler, and beef storage cooler each are equipped with a patented automatic air bypass damper operated by a thermostat to control room temperature automatically. Bypass damper on the beef cooler is operative only when the compressor is on hand control.

Back pressure in all of the rooms utilizing dry coil conditioners is set sufficiently high so that with the refrigerant automatically controlled, the units will defrost automatically during the shut-down period. Whatever moisture collects on the coils remains in the room and the relative humidity does not suffer.

The thermostat located in the beef cooler controls the operation of the ammonia compressor. The back pressure maintained in the high temperature rooms varies with each room, but on the average will run around 35 lbs. This makes for economy in operation of the refrigerating plant, since less power is used when operating at the back pressures encountered here.

A cooling tower, located on the roof of the building, takes care of the condensing water requirements.

Each unit cooler, as well as the coils in the freezer, is equipped with surge drums and low pressure type valves for complete flooded operation.

Electroaire Names Two New Representatives

CHICAGO—Electroaire Corp., manufacturer of Ozone Generating Equipment for killing odors and for sterilizing and freshening air, has appointed two new representatives.

Des Moines Steel Co., 421, S. W. 4th St., Des Moines, Ia., will represent the company in this territory, while the New York representative will be Air Conditioning Utilities, Inc., 8 W. 40th St., N.Y.C.

Utility Employes Get Conditioning Course

FAIRMONT, W. Va.—To instruct employes of the Monongahela West Penn Public Service Co. in the principles of air conditioning, a series of instruction courses have been conducted in leading cities of the utility's territory by A. R. McMillan of Frigidaire Corp. and V. T. Kartorie of York Ice Machinery Corp.

Cities in which the courses were given are Clarksburg, Fairmont, Perkersburg, Wellsburg.

Norge Introduces Two Models of Domestic Coal Stokers

DETROIT—Domestic coal stokers have been introduced by Norge Heating and Conditioning Division, Borg-Warner Corp., manufacturers of automatic heating and air conditioning equipment.

Two models are featured, one designed for homes with seven rooms or less, and another for larger residences. Both models can be installed for use with warm air furnaces, steam, vacuum, or vapor boilers.

Master control eliminates possibility of over-heating, and the pilot fire control keeps a very small fire in mild weather. The steel stoker fan is balanced to impose no strain on the motor, and will deliver 300 cu. ft. of air for every cubic foot of coal fed to the fire. Even temperature is assured at all times with the Norge stoker thermostat.

Shield Co. Moves to Conditioned Quarters

FORT WORTH, Tex.—The Shield Co., Inc., Crosley distributor here, has moved its operations to a new location at 1010 Macon St., where its general offices and display room occupy 18,000 sq. ft. of floor space.

Finished in early American design, with natural woodwork, the general offices and display room at the new location are now being air conditioned.

Service and accessory departments and warehouse space have been expanded in the new building.

C. B. Savage is president of the company. Other officers are W. A. Schmid, vice president; W. W. Slaughter, treasurer; and T. F. Tobin, secretary.

Stacy & Blaikie Form Air-Conditioning Firm

HARTFORD, Conn. — Robert P. Stacy and Thomas H. Blaikie, both of West Hartford, have formed the Eastern Air Conditioning Engineering Co., with offices at 36 Pearl St. here.

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The R. & H. Chemicals Department, Wilmington, Del.

Please put my name on your mailing list to receive the "ARTIC Service News." Also send me a copy of

☐ "ARTIC, *The Refrigerant*" ☐ "ARTIC *Service Manual*"

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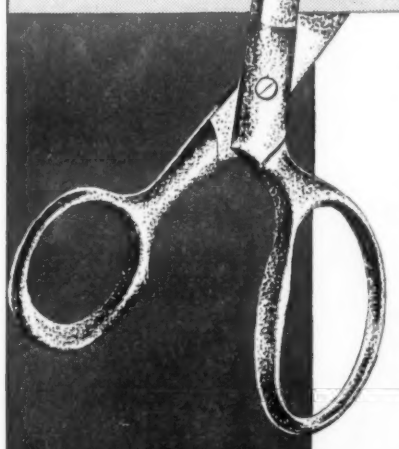

Engineers, Designers, Machine Builders: Get a copy of "ARTIC, The Refrigerant"—56 pages of useful information about the physical, physiological and thermal properties of ARTIC (Du Pont Methyl Chloride); important refrigeration uses; total heat chart; pressure-temperature curves; properties of common refrigerants; efficient methods of handling and servicing—and other helpful data.

Service Men: Complete information about handling and servicing ARTIC, methods of leak detection, etc., are given in the "ARTIC Service Manual." "The ARTIC Service News" contains up-to-the-minute facts about refrigeration, authorized distribution points, etc.

Use the coupon to obtain copies of these booklets, and to be put on the mailing list to receive the "ARTIC Service News."

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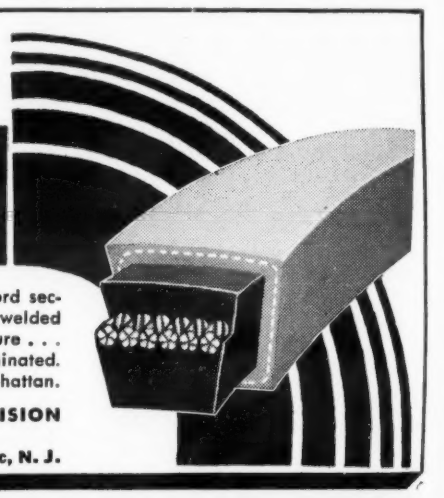
District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

MINIMUM INELASTIC STRETCH

MANHATTAN V-BELTS



One of many advantages—endless whipcord section completely floated in rubber and welded securely into a strong load-carrying structure . . . Longer life—minimum stretch—noise eliminated. One trial and you will always specify Manhattan.

THE MANHATTAN RUBBER MFG. DIVISION
of Raybestos-Manhattan, Inc.
45 Townsend Street Passaic, N. J.

1937 Brings 31 YEARS of ELECTRICAL MANUFACTURE

SQUARE D REGULATORS for Commercial Refrigeration

SQUARE D EVERYWHERE

SQUARE D COMPANY

REGULATOR DIVISION, DETROIT, MICHIGAN
WESTERN DIVISION, LOS ANGELES, CALIFORNIA
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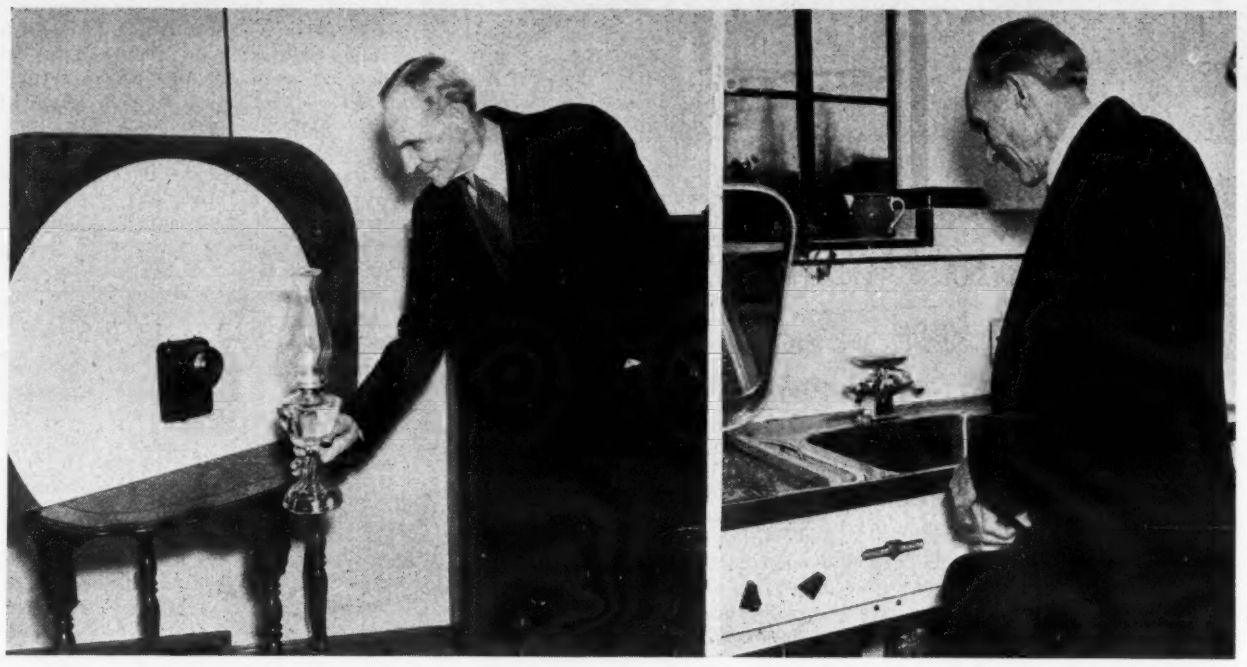
EXPORT DEPT., H. M. ROBINS CO., 120 MADISON AVE., DETROIT, MICH

Ford Dedicates G-E 'New American' Home in Detroit



Henry Ford officially dedicated the first General Electric "New American" home in Detroit recently, using an old-fashioned oil lamp, the rays from which actuated an electric eye, throwing on lights, radio, the all-electric kitchen, and air conditioning. At right, Mr. Ford is inspecting the electric dishwasher.

Brown Shoe Co. Reports Rise in Employe Efficiency As Result of Conditioning

ST. LOUIS—Marked improvement in the efficiency of office workers and savings in operating costs have been reported by the Brown Shoe Co. here following trial of a novel method of operating the York 150-hp. central station air-conditioning system installed in the company's general office building last summer.

Engineers employed by the makers of the famous "Buster Brown" shoes, following installation of the system by the St. Louis office of the York Ice Machinery Corp., early last summer introduced the idea of shutting down the refrigeration plant at 4 o'clock every afternoon, allowing office temperatures to rise gradually until at 5 o'clock—quitting time—air in the office was the same temperature as that outside.

In this way, they report, office employes were permitted to become tempered to varying outside climatic conditions before they left their work, and experienced no sensations of shock when walking out of the building into higher outdoor temperatures.

Reduced Power Costs

This practice had the additional advantage of materially reducing power consumption of the refrigerating plant, a check-up of operating costs has revealed.

"The summer season just ended has proved that this move was a prudent one," said W. Douglas Rolfe of the Brown Shoe Co.'s engineering department, "since a greater volume of orders has been handled with less confusion and delay and customer satisfaction is gratifying.

"Increased efficiency on the part of our employes," he said, "was immediately noticeable since the York equipment was placed in operation, permitting the smooth handling of a vast number of orders for fall business."

80° Temperature Maintained

Conditions maintained within the conditioned space—the first two floors of the building—are 80° F. dry bulb and 50% relative humidity when the outside conditions were 95° F. dry bulb and 47% relative humidity.

Dry bulb temperatures as high as 109° F. were experienced in St. Louis last summer, yet there was no difficulty in maintaining the 80° F. and 50% relative humidity standards during these times, company engineers say.

Installation of the York system was made during remodeling of the Brown office building, when all offices were centered on the first two floors. Equipment is located in the basement of the structure on the central system plan.

Equipment includes a York 14- by 10-inch double-cylinder Freon-12 compressor with 50% automatic capacity reduction, V-belted to a variable speed 150-hp. direct-current motor. A field rheostat in the direct-current motor circuit, together with the automatic capacity reducing valve, gives a highly flexible arrangement under which several ranges of tonnage can be secured.

Year-Round Equipment

Year-round operation is provided for with heating coils and humidification apparatus, with a large centrifugal fan installed next to the refrigerating machine and air washer. Air is cooled in a York model D-4 washer with ¾-inch coils fed by a low-pressure float.

A main air supply duct feeds both floors, the first floor duct work being furred in. Second floor ducts are painted white to correspond with the interior decorations of the offices.

The control system is of the pneumatic type, the main control being a dew point thermostat which controls the air leaving the washer. A submaster dew point control is operated by the master control located in the return air duct, which resets the dew point control, according to the condition of the return air.

Refrigeration in Reverse Used to Heat Va. Home

BURGUNDY, Va.—Reversed refrigeration heats the expansive home of Dr. Wm. McClellan, president of Potomac Electric Power Co.

In spite of several additions, the house was heated through the severe weather of last winter with less coal than ever before. In fact, the refrigeration-heating system carried the entire load up until Dec. 1, and the furnace was also shut down after April 1.

Equipment for this system of reversed refrigeration is located in the basement, the 3-hp. Frick machine, well pump, air filter, and fan being situated in a small tunnel. Fresh air enters this tunnel through openings at the top, and is brought over the coil assembly after leaving the fan.

Water is obtained from an artesian well about 225 feet deep. As the requirements of the house and machinery together require more than the three gallons of water the well would deliver per minute, most of the water is returned to the well to be used over again. Its temperature, which averages about 55° F., does not appear to be changed by this practice.

The water is forced into a storage tank, above which an air pressure is maintained. When this pressure drops, due to the faucets in the house being opened, the refrigerating machinery is automatically shut down.

Temperature charts indicate a rise in water temperature during this period.

In winter coil No. 1 serves as a preheater, the water then carried directly to the condenser-heater, the coils of which are installed in duplicate.

Coil No. 4 receives the hot discharge gas from the compressor and removes most of the superheat before this gas is carried back to coil No. 2 where it is condensed.

In summer, the well water in coil No. 1 cools the fresh air coming in from outside, and further cooling is accomplished by the Freon-12 under direct expansion in coil No. 2. The water is used again in coil No. 3 for reheating the air so as to free excessive humidity. The warm liquid Freon-12 coming from the receiver is also fed through coil No. 4 for the same purpose.

About six times as much heat is supplied by the system in winter as is represented by the electric energy that is required for operating the motor which drives the compressor.

Refrigerating Machinery & Air-Conditioning Equipment Exports for October

October, 1936, Shipments Reported by the Bureau of Foreign and Domestic Commerce, Washington, D. C.

Countries	Ice-Making Equipment	Not Over 1 Ton Capacity	Over 1, and Not Over 10, Tons Capacity	Over 10 Tons Capacity	Air-Conditioning Equipment Including Portable
Czechoslovakia	$ ...	$ ...	$ 520	$ ...	$ ...
Finland	...	339	594	...	...
France	...	...	...	...	3,460
Germany	...	...	...	...	620
Greece	...	...	...	...	1,021
Norway	...	...	...	...	370
U.S.S.R. (Russia)	...	...	3,415	...	...
Sweden	...	...	...	...	108
Switzerland	...	...	...	74	...
United Kingdom	7,651	...	...	26	8,652
Canada	7,740	1,565	5,162	702	9,096
Costa Rica	...	...	240	...	...
Honduras	...	322	...	...	...
Nicaragua	2	...	...	...	...
Panama	287	237	...	...	361
Salvador	130	...	43	...	...
Mexico	4,201	795	2,404	...	1,909
Newfoundland and Labrador	...	179	2,167	...	...
Bermuda	4,793	...	726	...	760
Barbados	216	...	...	...	...
Jamaica	6,735	...	...	...	...
Trinidad and Tobago	...	...	...	...	125
Other British West Indies	55	32	...	...	...
Cuba	722	447	150	40	8,195
Dominican Republic	1,137	...	...	...	435
Netherland West Indies	15	...	289	...	...
Argentina	912	...	5,846	8,501	...
Brazil	5,011	2,600	...	...	13,541
Chile	3,883	...	...	...	6
Colombia	219	3	...	...	...
Peru	2,076	...	210	...	1,128
Uruguay	...	...	...	...	574
Venezuela	2,024	8	3,400	...	58
British India	2,932	...	1,832	6,708	964
British Malaya	...	...	...	...	1,052
Ceylon	73	...	...	...	...
China	424	...	...	...	238
Netherland India	...	...	...	...	3,878
French Indo-China	...	...	...	...	1,050
Hong Kong	694	...	...	...	...
Japan	4,207	176	...	...	969
Kwantung	...	...	...	...	170
Iran	...	...	...	...	15
Philippine Islands	5,195	67	1,689	...	11,870
Turkey	70	...	...	...	...
Other Asia	...	...	...	...	10,656
Australia	2,797	...	2,137	...	1,007
French Oceania	...	...	...	...	76
New Zealand	...	2,106	5,051	...	2,550
Union of South Africa	1,628	5,175	512	1,285	29,261
Other British South Africa	...	...	...	501	112
Egypt	...	...	...	...	...
Algeria	...	...	3,356	...	1,321
Mozambique	...	...	...	...	585
Total	**$ 65,829**	**$14,051**	**$39,743**	**$17,837**	**$116,193**
Shipments to: Alaska	...	...	...	3,702	...
Hawaii	3,102	8,015	826	...	9,216
Puerto Rico	490	...	262	...	75
Virgin Islands	6	...	...	...	...

Chicago Air-Conditioning Sold During Nov. 1936

Name and Address	Class of Business	Tons	Hp.
Steinway Drug Store, 180 North Michigan	Drug Store	30	33¼
Cherry-Burrell, 427 West Randolph	General Office	30	39
H. W. Gossard Co., 108 East Ohio	Private Office (App.)	3½	3½
De Mets, 208 South LaSalle	Restaurant	10	11½
Hoe-Sai Gai (second floor), 85 W. Randolph	Restaurant	15	16½
Steak House, 507 South Wabash	Restaurant	20	22
National Tea Co., 2011 Howard St.	Store—Food	15	17
Commonwealth Edison Co., 11046 S. Michigan	Store—Miscellaneous	25	30
		148½	172¾

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1370 Harrison Street, San Francisco, Calif.
1505 Broadway, Cleveland, Ohio

This announcement will bring you

A HAPPY AND PROSPEROUS NEW YEAR!

Thanks to last year's increased seal sales we have moved to a larger factory. New precision automatic machines have been installed. Fine, uniform seals at a lower unit cost is the result. This saving in cost is passed on to you.

LIST PRICE $1.50 LIBERAL TRADE DISCOUNTS

Aero Self-Aligning Seals

Stock No.	Compressors	Shaft Size	List Price
105	Majestic	5/8"	$1.50
110	Dayton, Seal Space 13/16"	11/16"	1.50
115	Dayton, Seal Space 13/16"	5/8"	1.50
120	Mohawk, All-American	11/16"	1.50
130	Universal Cooler	11/16"	1.50
135	Liberty	5/8"	1.50
140	Liberty	11/16"	1.50
141-S	Mayflower, Single Cylinder	.640	2.00
145	Mayflower, Double Cylinder	21/32"	2.00
155	Norge, Slotted Shaft	5/8"	2.00
155-A	Norge, Slotted 1934-35	5/8"	2.00
156	Buckeye—6 hole plate	5/8"	1.50
175	Uniflow—6 hole plate	5/8"	1.50
180	Challenger	5/8"	1.50
251-S	Universal Single Cylinder	5/8"	1.50
256	Copeland—6 hole plate	5/8"	1.50
257	Copeland—Twin Cylinder	5/8"	1.50
356	Frigidaire—6 hole plate	5/8"	1.50
360	Frigidaire—A-6 hole plate	5/8"	1.50
365	Frigidaire—S-6 hole plate	5/8"	1.50
370	Frigidaire G-6 hole plate	5/8"	1.50
375	Frigidaire H-4 hole plate	5/8"	1.50
456	G.E. (Rotary)—6 hole plate	5/8"	1.50
556	Hot Point—6 hole plate	5/8"	1.50
656	Kelvinator—6 hole plate	5/8"	1.50
660	Kelvinator Twin Cylinder	5/8"	1.50
756	Leonard—6 hole plate	5/8"	1.50
856	Zerozone—6 hole plate	5/8"	1.50
956	Yukon—6 hole plate	5/8"	1.50
1156	Stewart-Warner—2 Cylinder Vertical	5/8"	1.50
1216	G. E. (Rotary)—6 hole plate	21/32"	1.50
2216	Hot Point—6 hole plate	21/32"	1.50

and more seals being designed!

They seat and seal immediately!!

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Other Patents Pending

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The Buyer's Guide

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During 1937 PEERLESS will blaze a broad trail through the refrigeration and air conditioning field—a trail you can follow to better business and greater profits.

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EXPORT DIVISION, P.O. BOX 636, DETROIT, MICH.

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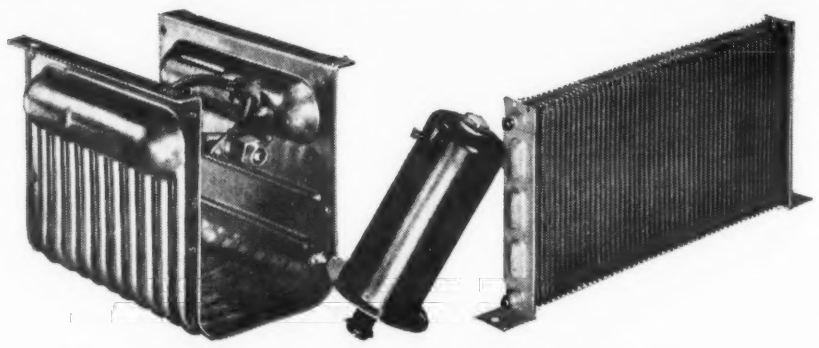

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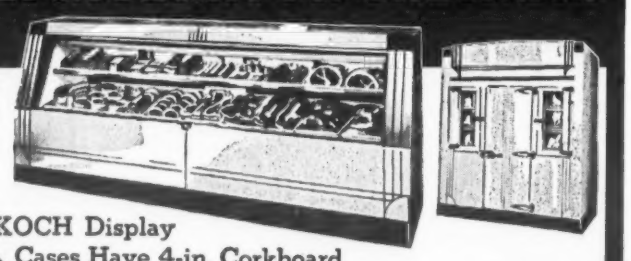

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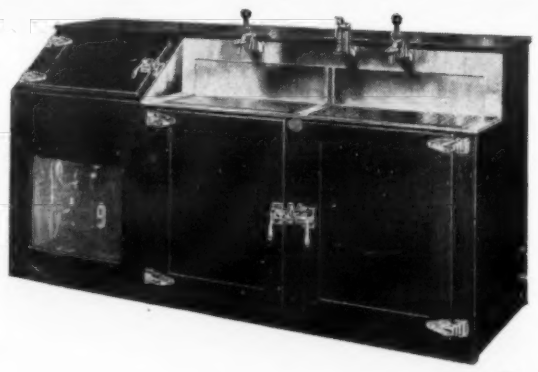
North Kansas City, Mo.



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Air Conditioning Made Easy

By F. O. JORDAN

Descriptions of Various Types Of Steam Heating Systems

SECTION NO. 7
Heating (Continued)

Miscellaneous Typical Connections (Continued)

Fig. 39 shows a recommended method of connecting the forced air heating unit into a one-pipe gravity system.

Air Unit in Gravity System

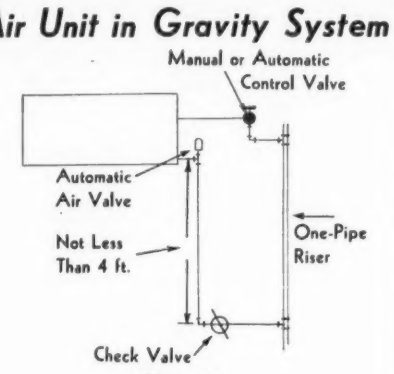

Fig. 39

Fig. 40 shows the method of connecting the forced air heating unit into the hot water system.

In Hot Water System

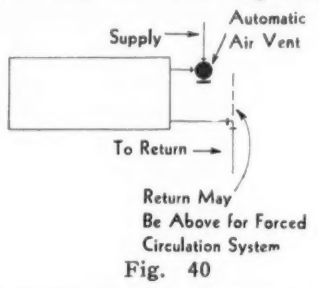

Fig. 40

Fig. 41 shows the method to be used if both supply and return connections come from below.

Connections from Below

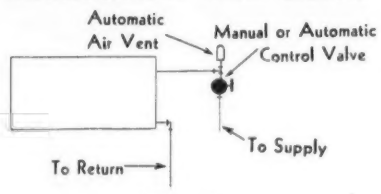

Fig. 41

Note: In all cases, pipe connections must not be less than those given by Tables Nos. 29, 30, 31, and 32 in Section No. 21, and must be installed so that neither air nor condensate will be trapped, thus avoiding strain due to contraction and expansion. If equipment is connected into present systems where these requirements cannot be complied with, or where the system is in any way inadequate, trouble and expense will result.

Steam One-Pipe Gravity System

Fig. 42 shows typical arrangements of the steam one-pipe gravity system. Since these cuts are diagrammatic only, see Figs. 4 through 31 inclusive for methods of making various connections.

The various features mentioned in the paragraph on "Steam" regarding prevention of condensation and air pockets, strain due to expansion, etc., must be observed in the design and installation of the one-pipe system.

Generally, the first cost of the one-pipe system is the lowest of any type of steam heating system, although the saving is not so great as appears at first thought due to the fact that larger piping must be used for the one-pipe system than for the two-pipe system, because steam and condensation flow in opposite directions in much of the one-pipe system.

Chief weakness of the one-pipe radiator lies in the fact that the condensate must escape through the same opening through which the steam must enter, so that the radiator must be operated with the valve wide open in order to prevent hammering and gurgling of the condensate.

Since it is impracticable to reduce the heating capacity of the one-pipe radiators by throttling the steam supply to meet mild outside temperatures, it is difficult to obtain satisfactory or even temperature distribution with the one-pipe system during mild weather.

Steam Two-Pipe Gravity System

Fig. 43 shows typical arrangements of the steam two-pipe gravity system. Since these cuts are diagrammatic only, see Figs. 4 through 41 inclusive for methods of making various connections.

The various features mentioned in the paragraphs on "Steam" regarding prevention of condensation and air pockets, strain due to expansion, etc., must be observed in the design and installation of the two-pipe system.

With the two-pipe system, it is possible to regulate the heating capacity of the radiator by throttling the steam supply, since steam and condensate enter and leave through different openings.

The two-pipe gravity system is frequently found in old buildings, but is rarely, if ever, installed at present.

Steam Two-Pipe Vapor System

Fig. 44 shows typical arrangements of the two-pipe vapor system. Since these cuts are diagrammatic only, see Figs. 4 through 41 inclusive for methods of making various connections.

The various features mentioned in the paragraphs on "Steam" regarding prevention of condensation and air pockets, strain due to expansion, etc., must be observed in the design and installation of the vapor system.

With this system it is possible to operate at low pressures (frequently sub-atmospheric) during mild weather, thus reducing the temperature and heating capacity of the radiator to meet reduced loads and so improving the regulation and even distribution of temperature.

Further regulation may be obtained by means of manual or automatic throttling of the steam supply at the radiator. For these reasons, this type of system is one of the most economical to operate, and one of the most satisfactory, although not the lowest in first cost.

With this system, the return connections may be made through a check valve, as shown by Fig. 6, through the "Hartford Loop," as shown by Fig. 7, through a return trap, as shown by Fig. 8, or through a condensate pump and receiver unit, as shown by Fig. 9.

When the condensate pump and receiver unit is used, the water level of the system is determined by the water level of the receiver rather than that of the boiler, so that the mounting height of basement radiation is determined by the height of the receiver. Therefore, by properly pitting the pump and receiver unit, basement radiators may be located at the floor.

In general, the condensate pump and receiver unit is used only for fairly large installations which cover a considerable area. However, this type of system is positive and trouble free, allows the installation of radiation and dry returns to be located at the boiler room floor level, very readily frees itself of air through the vented receiver, and is not unduly costly.

Steam Two-Pipe Vacuum System

Fig. 45 shows typical arrangements of the two-pipe vacuum system. Since these cuts are diagrammatic only, see Fig. Nos. 4 to 41 inclusive for methods of making various connections.

The various features mentioned in the paragraphs on "Steam" regarding prevention of condensation and air pockets, strain due to expansion, etc., must be observed in the design and installation of the vacuum system.

Connections at the boiler and pump should be made as shown by Fig. 10. The explanation with Fig. 10 describes the operation and advantages of this type of system.

In general, the vacuum system enjoys the same advantages described above for the vapor system with condensate pump and receiver unit, with the additional feature that radiators may be located below the pump and receiver, provided that a proper lift pocket is used as shown by Fig. 22.

However, the vacuum system is one of the most expensive, and it is especially important that there be no leaks in the return system as such leaks would tend to break the vacuum and so cause excessive pump operation, or interfere with the functioning of the system.

One-Pipe Gravity Hot Water System

Fig. 46 shows typical arrangement of the one-pipe gravity hot water system. Since these cuts are diagrammatic only, see Figs. 4 to 41 inclusive for

(Concluded on Page 15, Column 3)

Steam One-Pipe Gravity System

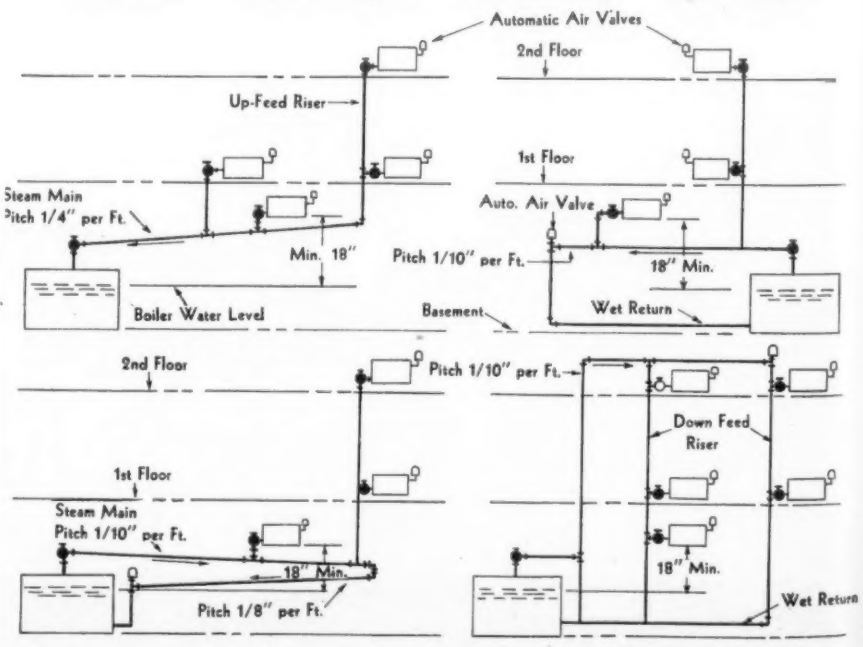

Fig. 42—Typical arrangements for the steam one-pipe gravity system.

Steam Two-Pipe Gravity System

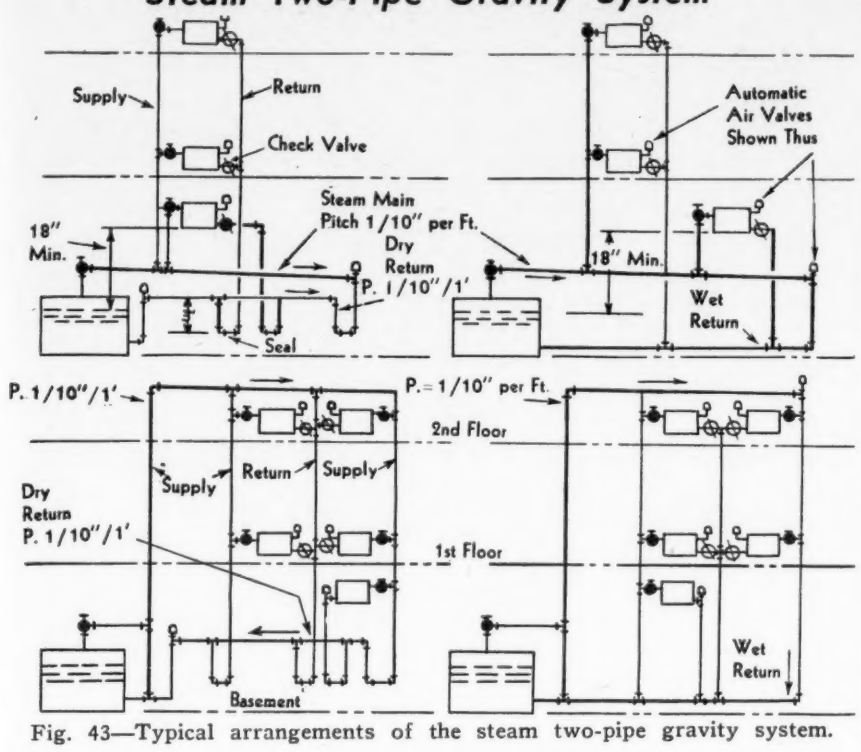

Fig. 43—Typical arrangements of the steam two-pipe gravity system.

Steam Two-Pipe Vapor System

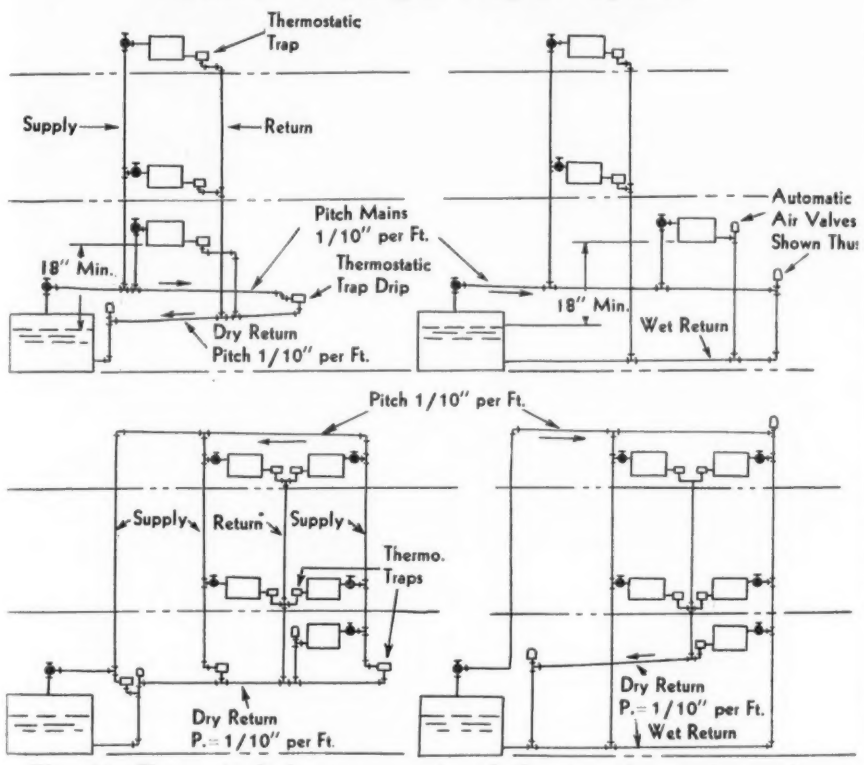

Fig. 44—Shows typical arrangements of the two-pipe vapor system.

Steam Two-Pipe Vacuum System

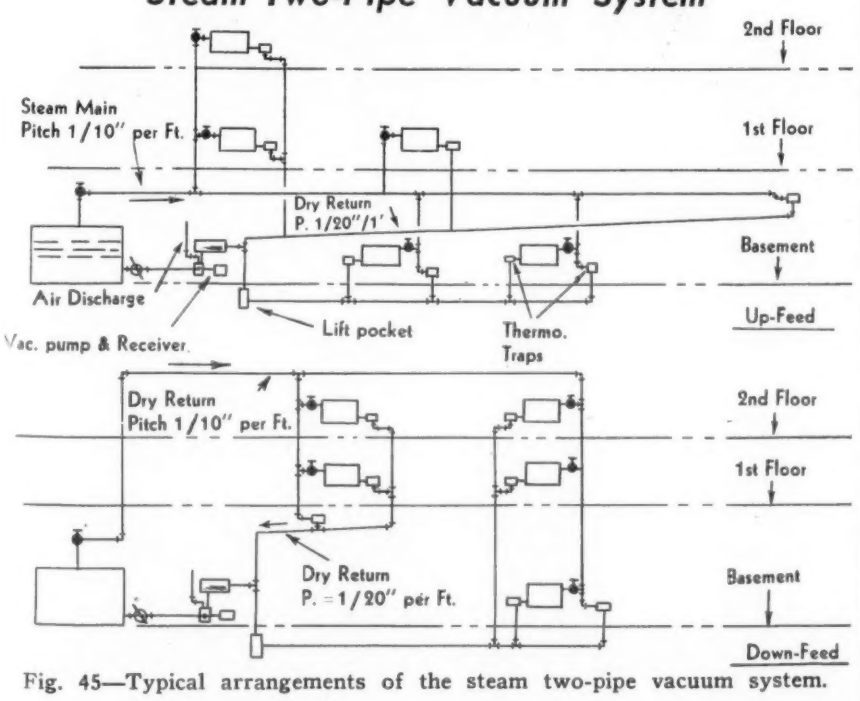

Fig. 45—Typical arrangements of the steam two-pipe vacuum system.

One-Pipe Gravity Hot Water System

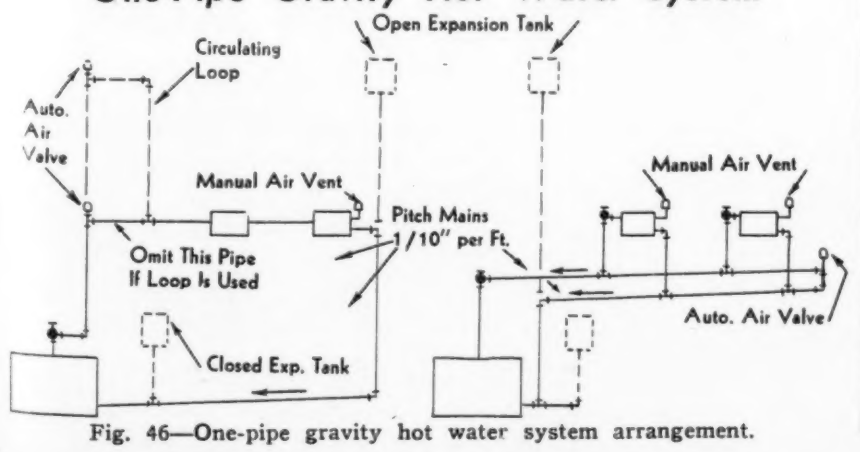

Fig. 46—One-pipe gravity hot water system arrangement.

1-Pipe Gravity Hot Water System Described

(*Concluded from Page 14, Column 5*)

methods of making various connections.

The various features mentioned in the paragraphs on "Hot Water" regarding prevention of air pockets, strain due to expansion, etc., must be observed in the design and installation of this system.

The "Series" system is used only for very small installations, usually for a small store building where the system is for one room. The parallel system is used for smaller or medium size residential or similar installations.

In the case of one-story installations, circulation of hot water may be improved by using a circulating loop, extending up ten feet or more, as shown by the diagram.

Either "closed" or "open" expansion tanks (see Figs. 34 and 35) may be used, although no expansion tank is necessary if the make-up water connection to the city water mains is left open to allow for expansion of the water in the system, and if the system is provided with automatic air valves at the high points for the relief of entrained air.

In the case of the "Series" system, all of the water is passed through each radiator in succession, so that the temperature of each successive radiator is lower. For this reason, radiator sizes must be increased as the distance from the boiler becomes greater.

In the case of the parallel system, special baffled fittings must be used at the points where radiator supplies branch off from the main, or proper restrictions must be placed in the main between the supply and return connections so as to force the required quantity of water to be diverted through the radiator.

Overheating is Cause Of Many Ailments, Doctor Declares

NEW YORK CITY—Overheating of homes is named as the cause of many common winter ailments by Dr. Shirley W. Wynne, former New York City health commissioner, in a brochure entitled "Temperature Control Is Health Insurance," recently published by Kelvinator Corp.'s Temperature Research Foundation.

Stuffiness, says Dr. Wynne, is one of the most common faults of the average American home during the winter.

"Particularly is this true in city apartments," he explains, "where the average tenant turns on the radiator full blast, with no thought of what is best for the general state of health. The evil effects of this tendency are intensified by the dryness of indoor air induced by the usual heating methods. This combination of excessive heat and abnormally dry air may work havoc, drying the skin and mucous membranes, and often causing throat irritation and a consequent predisposition to colds and respiratory infections."

Other unhealthy conditions mentioned by Dr. Wynne which result from the overheating of homes include: increased flow of blood; increased heartbeat; increased respiration; decreased vasomotor tone; swelling of the bony structures of the nares; increased pulse beat; increased evaporation; increased body and skin temperatures; increased metabolism, general lassitude and dizziness.

Dr. Wynne prescribes a temperature of about 68° F. for most healthful living conditions for the average person, and advocates 40 to 50% relative humidity.

Although he describes the placing of open pans of water on radiators and the abundant use of watered plants as "intelligent amateur efforts" to add moisture to the air of overheated houses, Dr. Wynne points out that such methods are inadequate when compared with the results of modern air-conditioning equipment.

Instrument Applications Listed by Brown

PHILADELPHIA—A new catalog has been issued by The Brown Instrument Co., a division of Minneapolis-Honeywell Regulator Co., covering the complete line of Brown thermometers and pressure gauges—indicating, recording, and controlling—and enumerating the range of industries to which they are applicable.

The classifications of Brown thermometers and gauges are listed, their constructional features explained, and a detailed description of each instrument in the line presented.

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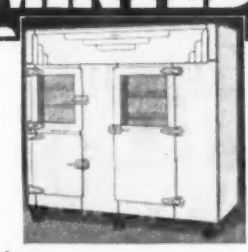

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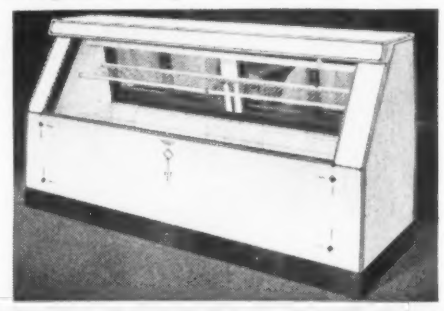

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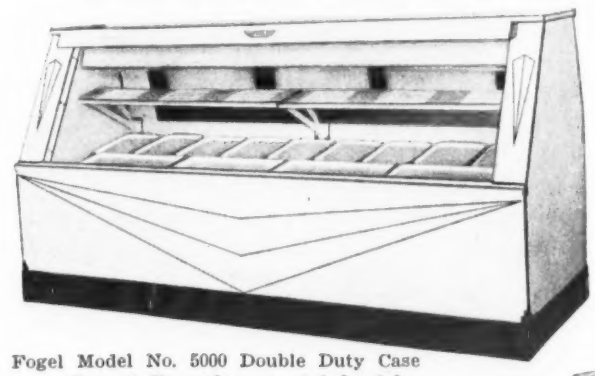

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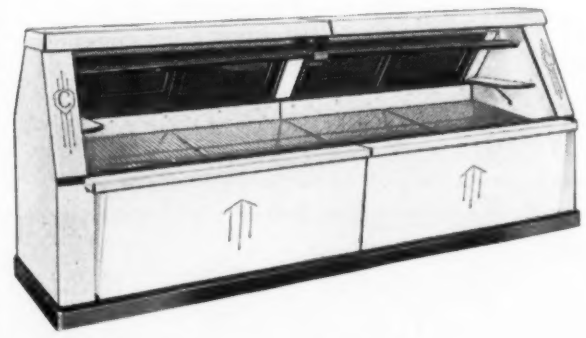

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The Buyer's Guide

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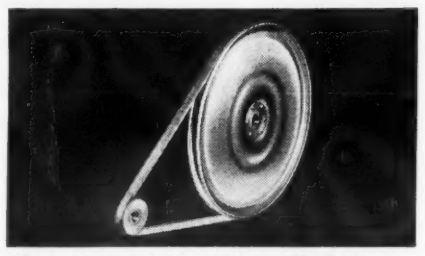

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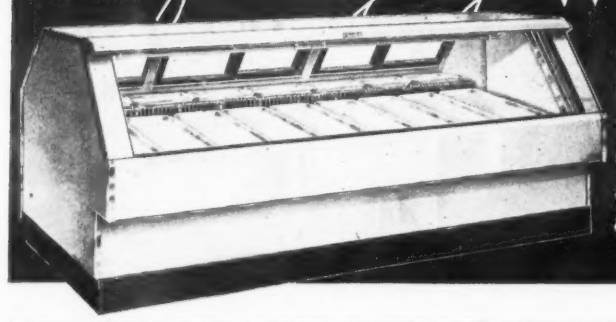

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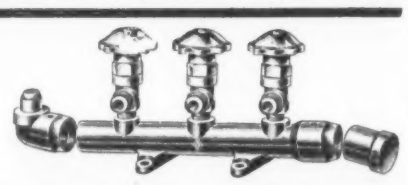

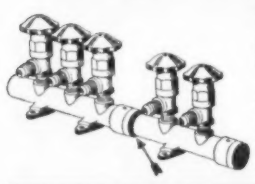

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Stewart-Warner Wins Trademark Convictions

CHICAGO—Convictions have been obtained in the Court of Special Sessions in New York, officials of the Stewart-Warner Corp. announced last week, against a group of corporations and individuals who were indicted last spring on a charge of conspiracy to counterfeit the manufacture and sale of trademarked "Alemite" and "Zerk" automotive fittings.

The four corporations and 18 individual defendants who were brought to trial all entered into a consent decree in Federal Court, enjoining them from infringing either the patent or trademark rights of the Stewart-Warner Corp.; and in the New York State Court the four corporate defendants subsequently pleaded guilty to the criminal charge and were given suspended sentences. The 18 individual defendants who agreed to the Federal Court Injunction were released in the State Court from criminal charges.

Deppmann to Sell Mercoid

DETROIT—R. L. Deppmann Co., 905 Holden Ave., has been appointed distributor for the complete line of Mercoid controls, manufactured by Mercoid Corp., Chicago.

Patents

Issued Nov. 24, 1936

2,061,599. REFRIGERATING APPARATUS. Lloyd E. Smith, Dayton, assignor to General Motors. Corp., Dayton. Application Oct. 19, 1934, Serial No. 749,005. 18 Claims. (Cl. 62—3)

2,061,606. REFRIGERATING APPARATUS. Glen F. Zellhoefer, Bloomington, Ill. Application July 20, 1934, Serial No. 736,232. 10 Claims. (Cl. 62—5)

2,061,646. AIR CONDITIONER. Neeta M. Belden, Wichita, Kans. Application March 27, 1935, Serial No. 13,263. 1 Claim. (Cl. 261—92)

2,061,742. HEAT INTERCHANGER. Richard H. Swart, Beloit, Wis., assignor to General Refrigeration Corp., Beloit, Wis. Application May 13, 1935, Serial No. 21,172. 3 Claims. (Cl. 257—235)

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2,061,869. REFRIGERATING SYSTEM. James Walter Gilbert and Ernest F. Walker, Johnstown, Pa. Application April 19, 1930, Serial No. 445,727. 11 Claims. (Cl. 62—115)

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2,062,035. MOTOR-COMPRESSOR UNIT FOR REFRIGERATING APPARATUS. Alex A. McCormack, Dayton, assignor, by mesne assignements, to General Motors Corp. Application May 30, 1930, Serial No. 457,565. 10 Claims. (Cl. 230—29)

2,062,042. VENTILATING AND AIR-CONDITIONING APPARATUS. Don A. Sargent, Portland, Maine. Application April 25, 1934, Serial No. 722,264. 6 Claims. (Cl. 257—8)

2,062,052. MOTOR-COMPRESSOR UNIT FOR REFRIGERATING APPARATUS. Elmer L. Horlacher, Dayton, assignor, by mesne assignments, to General Motors Corp. Application June 30, 1932, Serial No. 220,195. 6 Claims. (Cl. 230—24)

2,062,054. AIR CONDITIONING APPARATUS. Leroy Gale Huggins, Wilkinsburg, Pa., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh. Application April 26, 1935, Serial No. 18,295. 7 Claims. (Cl. 62—129)

2,062,090. AIR FILTER. Herbert M. Gaarder and Charles W. Becker, Chicago, assignors to Wilson & Co., Inc. Application Nov. 4, 1935, Serial No. 48,247. 6 Claims. (Cl. 183—45)

2,062,158. PORTABLE AIR CONDITIONING APPARATUS. Max Belowitz, Berlin, Germany. Application March 16, 1934, Serial No. 715,807. In Germany March 16, 1933. 6 Claims. (Cl. 261—91)

2,062,180. ICE MAKING APPARATUS. Victor N. Hybinette, Jackson, Mich. Application Nov. 17, 1932, Serial No. 643,011. 14 Claims. (Cl. 62—108.5)

2,062,187. AIR COOLING, CIRCULATING, AND CONTROLLING DEVICE AND PROCESS. Willard L. Morrison, Lake Forest, Ill. Application Aug. 25, 1934, Serial No. 741,510. 13 Claims. (Cl. 62—129)

2,062,206. COMPRESSOR. Lindsay Hugh Browne, Rochester, N. Y., assignor to Kellogg Mfg. Co., Rochester, N. Y. Application Oct. 4, 1932, Serial No. 636,214. 7 Claims. (Cl. 230—172)

2,062,235. REFRIGERATION. Alonzo W. Ruff, York, Pa., assignor to York Ice Machinery Corp., York, Pa. Application May 8, 1931, Serial No. 536,028. 9 Claims. (Cl. 62—91.5)

2,062,262. CONTROL DEVICE. Earnest J. Dillman, Detroit, assignor to Detroit Lubricator Co., Detrit. Application June 17, 1930, Serial No. 461,669. 26 Claims. (Cl. 236—92)

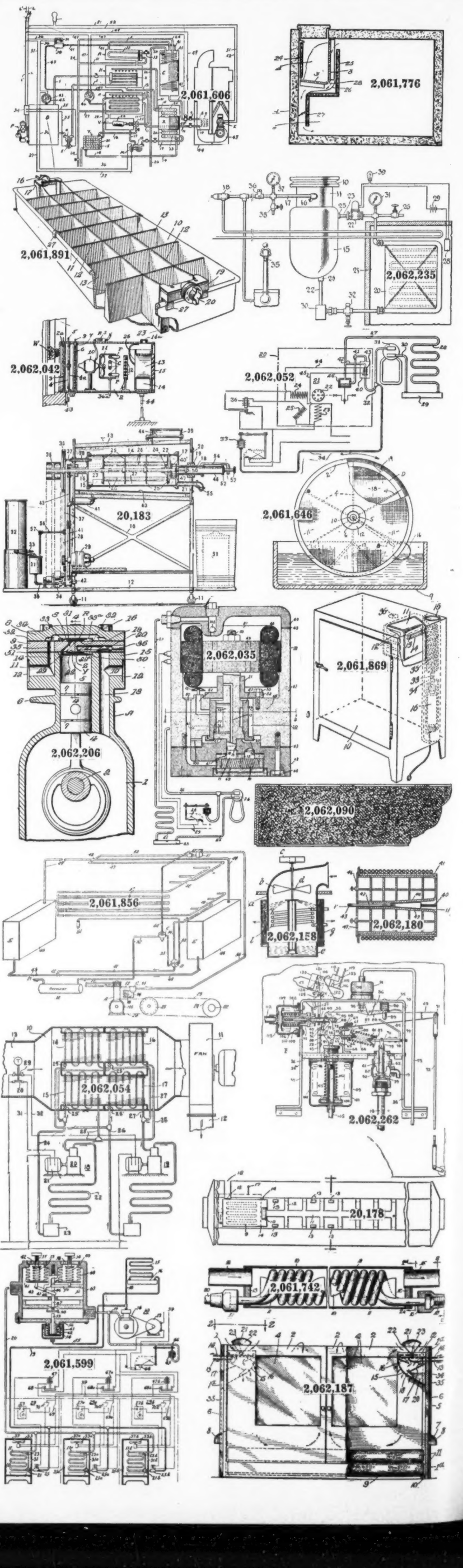
REISSUES

20,178. SYSTEM FOR AIR CONDITIONING RAILROAD CARS. Herman Richard Arf, Louisville, Ky., assignor, by mesne assignements, to Carrier Engineering Corp., Newark. Original No. 2,005,769, dated June 25, 1935, Serial No. 410,360, Nov. 29, 1929. Application for reissue June 5, 1936, Serial No. 83,820. 11 Claims. (Cl. 98—14)

20,183. CONTINUOUS FREEZER. Albert T. Light, Canton, Ohio, assignor to York Ice Machinery Corp., York, Pa. Original No. 1,773,912, dated Aug. 26, 1930, Serial No. 114,672, June 9, 1926. Application for reissue Aug. 20, 1932, Serial No. 629,733. 18 Claims. (Cl. 62—114)

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.



COMMERCIAL Service Manual

By K. M. NEWCUM

Oil-Lagged Evaporators and Float-Valve Calibration

CHAPTER 7—Evaporators & Refrigerant Controls (Con't)

Float Valves

Three typical Kelvinator float valves are shown in Figs. 94, 95 and 96. Model B1, Fig. 95, may be identified as the float valve shown in the Kelvinator flooded evaporator Fig. 97. Model B3 is used in the evaporator shown in Fig. 98.

Note in Figs. 93, 97, and 98 the layer or film of oil floating on top of the liquid refrigerant in the evaporator. This layer or blanket of oil is always present when SO_2 is the refrigerant, as oil is lighter than SO_2 and also it does not completely mix with SO_2.

This blanket of oil will not be found in an evaporator using methyl chloride, isobutane, or Freon-12, as the oil mixes freely with these refrigerants thereby forming an emulsion which may not separate in the evaporator.

The thickness of the blanket of oil on top of the SO_2 is important and is controlled by the calibration of the float valve.

If the oil blanket is very thin the SO_2 boils too violently often causing a noise in the float chamber and may in some instances boil or slop over into the suction line due to this violent boiling action.

Notice in Figs. 97 and 98 that both of these float valves are equipped with baffles. These baffles tend to prevent boiling liquid from slopping over in the suction line with the gas.

If the oil blanket is too thick it will retard the boiling of the refrigerant, in some cases sufficiently to seriously affect refrigeration.

Note in Figs. 97 and 98 oil overflow holes "4." These holes are so located that when the oil level has risen to the desired point it will overflow down the suction line to the crankcase.

It may also be noted that the float ball floats in the liquid SO_2 and is not materially affected by the oil. Assume that the float valves in either Fig. 97 or 98 were set or calibrated one half inch lower. This could be done by using a longer needle or bending the float arm downward. This condition would result in the actual liquid level being one half inch lower.

With the liquid refrigerant level one half inch lower, the oil blanket would be one half inch thicker. This thick oil blanket would retard evaporation and the evaporator would be what is termed as "oil logged."

Heat may be applied to the evaporator to induce boiling which would temporarily cause the refrigerant vapor to break through the heavy oil blanket. This however would not remove the oil nor would it correct the cause of the oil logged condition.

The oil could be dumped out, by evacuating the evaporator, removing the float valve, and turning the evaporator upside down. Nor would this remove the cause as the evaporator would soon fill up again with oil from the crankcase.

To correct permanently a condition of this nature, the improperly calibrated float would have to be replaced by one that is properly calibrated. With the proper float, the correct oil and refrigerant level would be maintained.

From ordinary wear, as may be observed, the calibration of the float would raise. It is for this reason that the suction line on an old evaporator will frost back farther than it did when the same float valve was new. This worn float would also maintain a thinner oil blanket. This is not considered objectionable so long as the suction line does not frost outside of the refrigerator.

Another consideration in the calibration of a float valve is the temperature of the evaporator.

Where the evaporator is working at ordinary commercial temperatures of say 20° F., a film of oil ½ inch thick would not be considered too thick. However, if the evaporator is working in an ice cream cabinet at say —10° F. where the boiling action is less at the lower temperature, the thick oil level would be objectionable as it might retard evaporation. In this case an oil level of say ¼ inch to ⅜ inch would be sufficient.

The test for an oil logged evaporator is to observe the gauge on the low side during a complete "on cycle." If the pressure increases considerably at irregular intervals and a loud thump is noticed in the evaporator it is from trapped vapor breaking through the heavy oil. The thumping noise is oil that has been thrown against the top or side of the float header by the force of the released vapor.

If this test does not show any signs of an oil logged condition, close the liquid line service valve and start the evaporator to pumping down. Keep the compressor running. With the resultant lower back pressure, vapor will break through the oil causing the gauge to "jump up" and the loud thumping noise.

Needless to say, a low side float valve evaporator must be perfectly level and plumb. If the evaporator is not level, the liquid level as it effects the float valve will be changed. If it is not plumb from side to side, the float will be working under a strain and might possibly bind.

Typical Float Valves

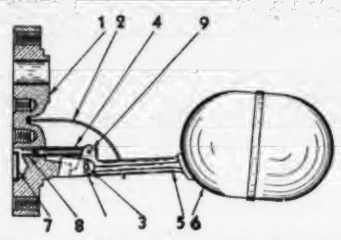


Fig. 94—Kelvinator Model B-3 float valve. This valve is shown installed in Fig. 98. See key to numbers below under Fig. 96.

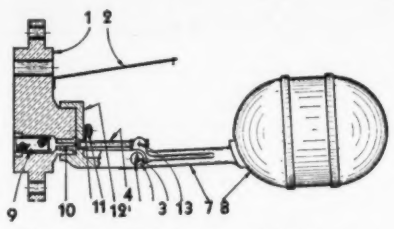


Fig. 95—Kelvinator Model B-1 float valve. This valve is shown installed in Fig. 97. See key to numbers below under Fig. 96.

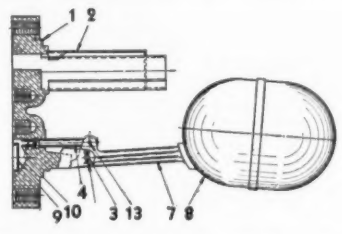


Fig. 96—Kelvinator Model B-2 float valve. Key to numbers:

1. Face Plate.
2. Baffle.
3. Arm Pin.
4. Valve.
5. Arm Stop.
6. Valve Spring.
7. Arm.
8. Float.
9. Strainer.
10. Valve Seat.
11. Bracket Screw.
12. Bracket.
13. Valve Pin.
14. Valve Spring Screw.

Kelvinator Evaporator Units

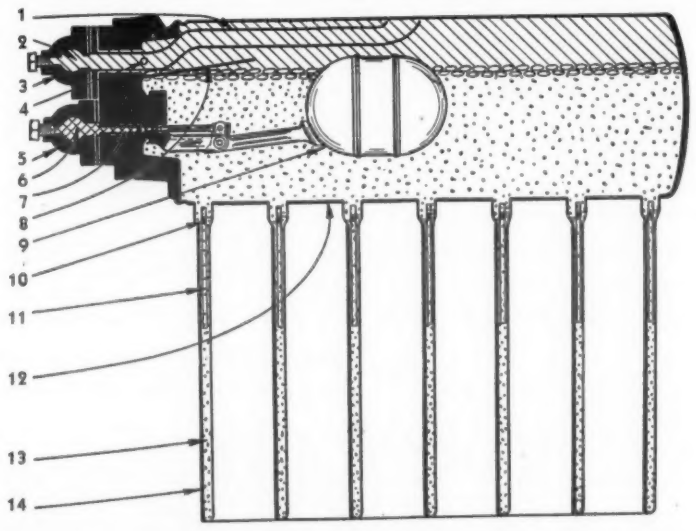


Fig. 97—Typical vertical-type low-side float valve flooded-system cooling unit. See key to shaded sections and numbered parts below under Fig. 98.

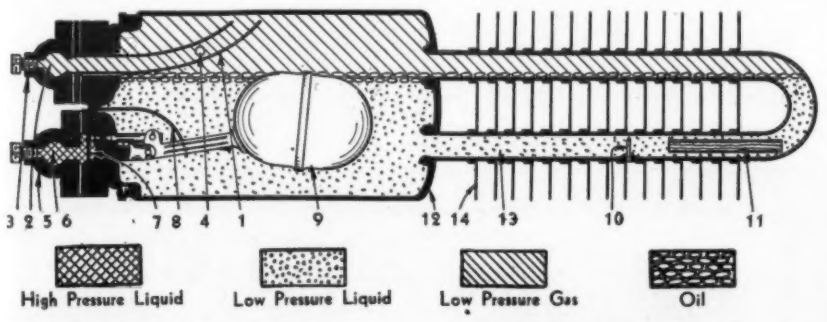


Fig. 98—Typical horizontal-type low-side float valve flooded-system unit.

1. Suction Tube.
2. Suction Line Connection.
3. Suction Service Valve.
4. Oil Overflow Hole.
5. Liquid Service Valve.
6. Liquid Line Connection.
7. Strainer.
8. Float Valve Baffle.
9. Float Valve.
10. Ebulator Retainer.
11. Ebulator.
12. Float Valve Housing.
13. Vaporizing Tube.
14. Fin.

Kennedy Heads Service Dept. for Anchor Lite

PITTSBURGH—J. M. Kennedy has been appointed manager of the parts and service department of Anchor Lite Appliance Co., local Crosley distributor, according to company officials.

Mr. Kennedy has served nearly nine years in managerial capacities with other wholesale organizations, and has had considerable experience with both commercial and domestic refrigeration equipment. He has also spent some time in laboratory and research work.

Parnham Joins Airo Supply Advertising Department

CHICAGO—C. S. Parnham, formerly associated with Automatic Products Co., Milwaukee, has joined the staff of Airo Supply Co., refrigeration parts and supplies distributor, according to announcement by E. W. Scotten of the Airo Co.

Mr. Parnham will be associated with the advertising and sales development work of the company.

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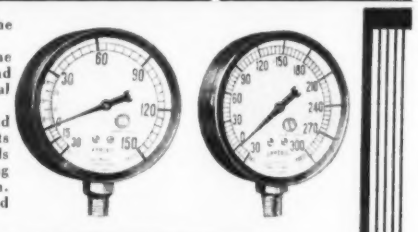

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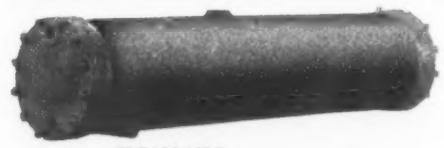

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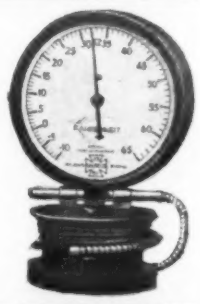

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Service Methods

Ice Cream Cabinet Service Problems Analyzed by Boyer

By O. F. Boyer,* Ice Cream Refrigeration Service Co., Los Angeles

Any discussion relating to the operation and efficiency of an ice cream cabinet service department must be predicated on several factors besides the efficiency and ability of the service personnel. The make of cabinet, its age and condition, the latitude permitted the sales department in "hooking up" additional refrigerated fountains, salad cases, back bars, etc., to the ice cream compressor—all must be considered.

We are accustomed to speak of cabinet maintenance costs in terms of "cost per gallon." There is no accurate meaning in "cost per gallon" as applied to service department costs.

The "cost per gallon" item is an administrative control figure which by its very nature represents the composite results of combined efforts and policies of the manufacturer, sales department, and service department. Each is interdependent upon the other; neither is able to control independently the cost of its own operation.

Let us analyze this statement:

1. The ice cream manufacturer selects the make of cabinet and compressor which the service department is to install and maintain; he directs the amount of money the service department may spend in reconditioning cabinets and compressors in the field, and the frequency with which this work may be done; he limits the capital investment allowable in shop tools and equipment and, in a general sense at least, directs the salaries allowable to service men, the number to be employed, and transportation facilities furnished.

2. The sales department, in conjunction with the manufacturer, determines the extent to which the manufacturer will obligate himself to obtain the business of a dealer. The "cost per gallon" of maintaining a dealer equipped with one cabinet connected with one compressor, as compared with a stop operating cabinet, back bar, salad case, and possibly a leaky fountain connected to one compressor, is as different as day is from night.

* * *

Factors in Service Department Costs

Service department costs are entirely dependent upon the make, age, and condition of the equipment and the liberality which the sales department expresses to the dealer in agreeing to refrigerate various equipment in the dealer's store in addition to the ice cream cabinet itself.

Now, if the all-important "cost per gallon" figure is an administrative and not a service problem, what then?

Just this! Ice cream manufacturers, large and small, from coast to coast, show less precision and more waste in the maintenance of dealer refrigeration service than in any other operation of the business.

The major responsibility does not end with signing up a desirable dealer; *it begins there.*

Let's start with the knowledge that we have promised Mr. Dealer to maintain automatically a predetermined *air condition* in a cabinet 24 hours a day, 365 days a year. It is a pretty good trick to do anything 24 hours a day, 365 days a year, but that is precisely what we agree to do when we accept the account.

The first step then, after signing the account, is to purchase a cabinet so engineered and constructed by the refrigeration manufacturer that it will, with reasonable attention, do this job.

* * *

A Quality Cabinet Cuts Down Servicing

Right at this point old man "cost per gallon" comes walking in—without introducing himself. Cabinets, both new and used, obviously can be purchased at various prices. The selection of the cabinet, if new, and its condition, if used, largely determine the cost of maintenance after installation.

It has been my observation over a period of years that nationally distributed cabinets are the most economical. Of these, two makes predominate. Standardization on either one of these two cabinets simplifies the parts problem, and facilitates the employment of capable mechanics with previous experience and familiarity with the equipment.

Locally-built cabinets obtained at a slightly lower original cost frequently demand excessive maintenance expense and complicate the service personnel problem.

From the standpoint of resale value in liquidation or replacement of old equipment, the nationally distributed cabinets, particularly the two major makes, carry a very definite resale value which is not true of the locally manufactured product.

So much for the product.

The sales department, in its relation to the cabinet service department, represents a problem whose fundamentals must be rigidly observed. It is perfectly understandable that a salesman, after selling his product to the dealer, is not in the mood to be too dictatorial about the equipment to be refrigerated.

Particularly is this true where the ice cream manufacturer previously has been refrigerating customer equipment other than the cabinet itself.

* * *

Restrict Additional Evaporating Hookups

Having accepted an account we have to live with it. There should be rigid restrictions with respect to multiple hook-ups. A cabinet and compressor is not a service problem. What service maintenance is encountered generally is simple, the complaint well defined and readily handled by an average mechanic. To start adding fountains, salad cases, back bars, meat boxes, bottle coolers, etc., to the ice cream compressor is to graduate into an engineering problem that no average service mechanic should be expected to handle. It has been my experience that the greater portion of our expensive service problems originate from this type of equipment.

A 40-gallon fountain in one location, for example, might readily be handled on a third horsepower compressor, whereas the same type of fountain in another location, using large quantities of water, together with a back bar or two, might require two or three times this capacity.

Start adding back bars where the insulation is at a minimum, and service boxes with varying heat load requirements, and you are simply dealing with thermal factors, which at best are a problem of the experienced engineer.

From my observation and experience in this business, I can say without qualification that the nearer you stay to the installation of one cabinet on one compressor, the closer you will come to serving your customer properly, and reducing your "cost per gallon" to a point where you can live with it.

For those who believe the salesman when he says he has to hook up other equipment with the ice cream compressor, let me give you this general engineering rule: "Two-thirds of

(*Concluded on Page 19, Column 1*)

*Address delivered before 36th annual convention of the International Association of Ice Cream Manufacturers.

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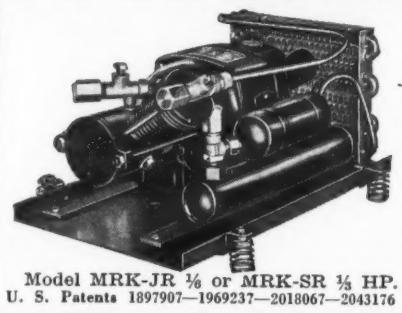
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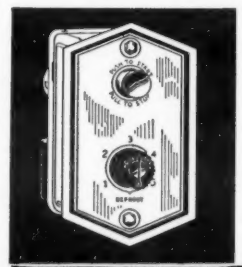
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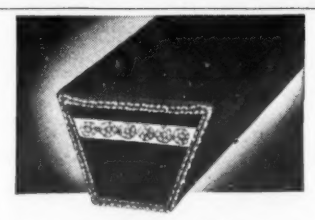
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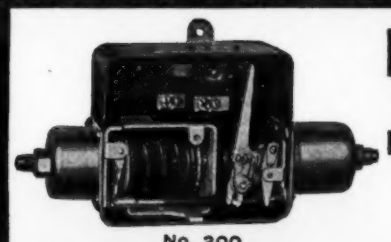
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Achieving Maximum Efficiency in Service Inspection Calls Discussed by Boyer

(*Concluded from Page 18, Column 3*)

the total heat load must be on the low temperature side."

In other words, a 12-hole cabinet and a small back bar coil is not entirely unacceptable, but a 2-hole cabinet and a large reach-in box is just impossible. Individual compressors for back bars, service boxes, etc., is the only sound procedure if the sales department insists on furnishing refrigeration in addition to the ice cream cabinet or fountain.

One last comment with respect to the sales department. First, do not promise more than you can reasonably deliver and second, ask the salesmen not to be too ready on every complaint of the customer to "send a man out." You would be surprised at the number of service calls which are unnecessary.

* * *

Organization of the Service Department

With respect to the service department itself, there is not much to be said. Mechanics of course should be selected on the basis of their familiarity with the equipment and their ability to analyze trouble. Repairing the trouble is comparatively simple if it is accurately traced to its source.

Carbon conditions and plugged screens are always due to air in the system. You can tell the service men that while pressures assist in forming carbon, if the job had been entirely free from air, the carbon would not be there.

Neatness in appearance and a courteous approach to the customer obviously is important. Most of our manufacturers these days equip their men with uniforms which are laundered daily. I am personally very favorable toward a neat cap. It *lends* dignity particularly to those fellows who don't like to comb their hair.

In metropolitan centers we have found the district plan of servicing very successful—that is, dividing the city into districts, with each man being responsible for the maintenance and service of the equipment in his district, under the direction of a central dispatcher.

So much for the operation of a cabinet service department. The generalities affecting maintenance of cabinets boil down to cabinets and compressors.

It has been my experience, based on observation of two leading national makes, that very little service trouble is encountered the first year. Installation sometimes asks temperature adjustments, but there should be no problems for the succeeding twelve months.

During the second year you can expect a float valve change, a temperature setting, and in direct expansion cabinets, possibly an adjustment or two of the valve. During the third year the routine will stand repetition, with possibly a new belt.

During the fourth and fifth years trouble really begins. The compressor itself will need attention, and the cabinet. With the four or fifth year of operation the compressor should have a complete overhaul, and the cabinet likewise. After a complete overhaul, it is reasonable to expect another cycle of service similar to that of a new cabinet.

After the tenth year you can use your own judgement; the ice cream cabinet industry being just about that age at the present time we have no precedent.

* * *

Question of Frequency Of Service Inspections

One of the questions most frequently asked is "Does regular inspection of cabinets reduce maintenance cost?" Yes, it certainly does. All cabinets should be inspected at least four times a year.

By inspection I mean checking the cabinet as to temperature with gauges on both high and low side; check the belt, oil the motor, clean the condenser by air blast, clean the compressor and motor with solvents, touch up rust spots on the cabinet panels.

It is well known in the motor industry that up until the first of this year electric motors were not adequate for refrigeration duty. Use every precaution, then, to keep the motor clean, well oiled, and as free from dust and dirt as possible. Considerable motor trouble can be eliminated by this procedure.

I do not believe that monthly inspections are profitable. Inspections four times a year provide all the protection needed in the field. Only a limited amount of work can be done in a dealer's place of business. When equipment reaches a point where it is inefficient or troublesome, it should be brought into the shop where a complete overhaul can be made systematically and with the proper facilities. Inspections every day could not eliminate this type of repair.

There has been a demand for figures on the cost of servicing small dealers as compared with servicing large dealers. There are no figures available as to the "cost per gallon" on this comparison. It is perfectly obvious that the "cost per gallon" on a 12-hole stop is going to be considerably less than the "cost per gallon" on a 2-hole.

From the standpoint of maintenance there is absolutely no difference in service costs. A 12-hole cabinet can be serviced and maintained at exactly the same cost as a 2-hole. In depreciation there is a proportionate difference, but that is all.

The only justification for very small stops is where they occur on a regular route and can be served at a minimum expense, or where an ice cream cabinet is furnished to protect a profitable milk stop.

* * *

Average Costs for Service Maintenance

The latest figures available from our own territory show the average cost per gallon for service maintenance to be only five cents. Anything below five cents is better than average performance. Cost per gallon for the entire operation of the service department, including installation, removal, maintenance and depreciation on cabinets, should be eight cents. Below this figure again is better than average performance.

A fair average cost per compressor, per month, for maintenance only is $1.50. This figure of course will vary with the location of the stops and the number of multiplexed evaporators and cabinets connected to the compressor. From $1.25 to $2.00 per compressor is average performance, the allowable variation being contingent upon the average number of evaporators connected to one compressor and locations of installations.

Records give cost of maintenance, cost of rebuilding, cost of installation and removal, depreciation of equipment and then total cost. Each of these operations has its own classification and should be so considered in the cost breakdown. Cost of compressor and cabinet overhaul should be credited to the book value of the equipment as a capital expense, rather than maintenance.

Installations and removal are sales department items. Some manufacturers consider it good business to charge to the sales department maintenance of all evaporators, whether or not directly concerned with refrigeration of ice cream.

* * *

The Griefs of the Service Business

Service, at its best, is difficult business. I like to have our service men think of themselves in the terms of a physician; and of the customer as the patient. The first thought of a good physician in talking to his patient is to place the patient completely at ease.

If our service men, in making their calls, would consider themselves as the doctor, and endeavor first of all, before attempting to make any repairs, to place the customer mentally at ease, it would assist materially in finding the trouble and applying the remedy.

Many service calls are fancied—others exaggerated in the customers' minds. Let me illustrate this with an experience we had in the early days of refrigeration:

One of the power companies in the South decided that the successful way to merchandise electric refrigeration was by rendering perfect service. They employed a staff of technical school graduates as service men and trained them in the particular refrigerator they were handling.

At the conclusion of the training course, competitive examinations were held in which one man was outstanding—in fact his examination paper won a rating of 99%. About this same time, the service department had been receiving repeated calls from a school mar'm to whom they had sold a refrigerator.

The general manager of the company, in view of the repeated calls, decided to send out their "star" man who had passed his examination with the 99% mark, feeling sure he could remedy the trouble once and for all. This he proceeded to do and the man reported back that everything was working satisfactorily.

Next day the telephone rang and again the school mar'm on the phone: "My refrigerator is not working."

The general manager replied, "Madam, there is positively nothing more that we can do for you. We have sent every service man we have—in fact, the last man is our 'star' man and in our competitive examination passed with a mark of 99%. I don't know what else we can do."

The school mar'm raised her voice. "What was that you said?"

He replied, "The last man we sent you was our very best man, the man who passed his examination here with a mark of 99%."

The school mar'm shouted, "I thought so! That's just it. That one thing he missed is what is wrong with my refrigerator."

Wile and Nelson Inaugurate New Service Series

DETROIT—Dan D. Wile, chief engineer of the refrigeration and air-conditioning division of Detroit Lubricator Co., and Owen Nelson of Riley Engineering Corp., were recent speakers before the Detroit School of Refrigeration. Mr. Wile talked on "Thermostatic Expansion Valves" and Mr. Nelson discussed "Oil Traps."

These talks were given as a part of the new plan of the Detroit School of Refrigeration to bring in representatives of various manufacturers to give the students information concerning the accessories used for refrigeration and air-conditioning work which their companies manufacture.

In addition to these talks, occasional trips through the various plants are arranged, the last one being made to the Wolverine Tube Co., mill where the complete operations required in the manufacture of tubing were observed.

Until recently the Detroit School of Refrigeration's combined course in refrigeration and air conditioning has been given only as a resident course, but in the last few months this service has been expanded so that now the course is given in three ways.

The resident course can be taken over a period of three months provided the student attends full time classes for approximately 40 hours per week; or it may be taken as a part time course by those who are working, in which case the student attends two four-hour classes per week during the day or evening.

The second plan consists in an extension course to be completed in from six months to two years at the option of the student, after which the student attends the laboratory for a minimum of one month, where he will get the practical tests and repair work and where, in addition, he may attend lecture classes on subjects on which he needs more work.

The third plan consists in a purely extension course which the student may complete in a period of from six months to two years at his option. This course is especially for men engaged in refrigeration and air-conditioning work, but who have not had the technical education the work may call for.

Starting in January a class has been planned especially for executives and workers in the field of refrigeration and air conditioning who have not had a technical training in refrigeration and air-conditioning work. It is expected that the problems brought in by the students who are already doing, or are in charge of, refrigeration and air-conditioning work, as well as by engineering salesmen who will be taking the course, will prove of unusual interest and benefit to those in the class.

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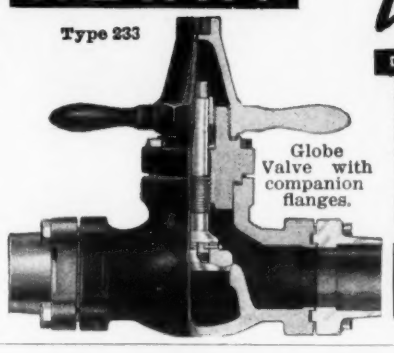

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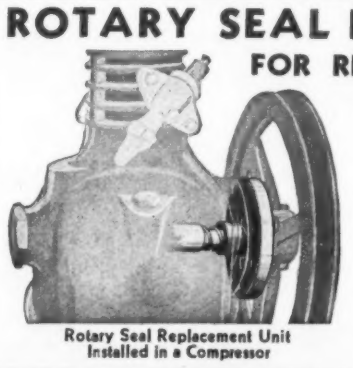

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